NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS

OPNAV INSTRUCTION 3710.7R

THIS MANUAL SUPERSEDES OPNAV INSTRUCTION 3710.7Q
DATED 1 MAY 1995

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS

15 JANUARY 1997

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO

OPNAVINST 3710.7R
N889J3
15 Jan 97

OPNAV INSTRUCTION 3710.7R

From: Chief of Naval Operations

Subj: NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS

Encl: (1) NATOPS General Flight and Operating Instructions

1. Purpose. To issue enclosure (1) which provides policy and procedural guidance applicable to a broad spectrum of users and complements individual NATOPS manuals. This instruction is a complete revision and should be read in its entirety.

2. Cancellation. OPNAVINST 3710.7Q.

3. Background. The Naval Air Training and Operating Procedures Standardization (NATOPS) Program is a positive approach toward improving combat readiness and achieving a substantial reduction in the aircraft mishap rate. Standardization, based on profes-sional knowledge and experience, provides the basis for develop-ment of sound operating procedures. The standardization program is not intended to stifle individual initiative, but, rather to aid commanding officers in increasing their unit's combat potential without reducing command prestige or responsibility.

4. Reproduction. Duplication of this publication for other than military use without specific authority of the Chief of Naval Operations is not authorized.

5. Instructions. All instructions that are cited in the text are listed (with their current suffixes) in Appendix C.

6. Reports and Forms. Reports and forms required by this instruction are listed on pages xxvii and xxviii.

DENNIS V. McGINN
Rear Admiral, U.S. Navy
Director, Air Warfare Division

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	26SS	(Mobile Mine Assembly Group and Unit)
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	26KKK	(Tactical Training Group)
	28A	(Carrier Group) (2)
	28B	(Cruiser-Destroyer Group) (2)
	28C	(Surface Group and Force Representative)
	28D	(Destroyer Squadron)
	28J	(Combat Logistics Groups, Squadrons and Support Squadrons)
	28L	(Amphibious Squadron) (2)
	29A	(Guided Missile Cruiser) (CG) (CGN) (2)
	29B	(Aircraft Carrier (CV), (CVN) (14)
	29E	(Destroyer (DD) 963 Class)
	29F	(Guided Missile Destroyer (DDG)) (2)
	29AA	(Guided Missile Frigate) (FFG 7)
	31A	(Amphibious Command Ship) (LCC)
	31G	(Amphibious Transport Dock) (LPD)
	31H	(Amphibious Assault Ship) (LHA) (LPH) (2)
	31I	(Dock Landing Ship) (LSD) (2)
	32C	(Ammunition Ship) (AE)
	T-100W	(Combat Store Ship) (AFS)
	32H	(Fast Combat Support Ship) (AOE)
	32KK	(Miscellaneous Command Ship) (AGF) (2)
	41B	(Area Commander, MSC) (COMASCPAC, only) (2)
	42	(Naval Aviation) (12) (Less 42B, 42D, 42K, 42L, 42N, 42P, 42Q, 42R, 42S, 42T, 42U, 42W, 42X, 42Z, 42BB, 42CC, 42DD, 42GG)
	42A3	(Fleet Air Command EUR) (Aeromedical Safety Unit)
	42B1	(Functional Wing Commander LANT) (Less COMTACWINGSLANT) (6)
	42B1	(Functional Wing Commander LANT) (COMTAVWINGSLANT) (80)

Distribution (continued):

SNDL	42B2	(Functional Wing Commander PAC) (6)
	42B3	(Functional Wing Commander Reserve) (7)
	42D	(Fleet Aviation Specialized Operational Training Group) (55)
	42E	(Type Wing Commanders) (3)
	42J	(Carrier Air Wing (CVW))
	46T	(Attack Squadron) (VA) (Less VA-42, VA-45, VA-196, and VA-128) (12)
	46T	(Attack Squadron) (VA) (VA-45) (100); (40); (42)
	42L2	(Fighter Squadron) (VF) (Less VF-126/VF-51/VF-111) (12)
	42L2	(Fighter Squadron) (VF) (5)
	42N	(Air Anti-Submarine Squadron) (VS) (Less VS-41 (12)
	42N	(Air Anti-Submarine Squadron) (VS) (VS-41) (45)
	42P	(Patrol Wing and Squadron) (VP) (VPU) (Less PATWING 2, VP-22, VP-30, and VP-46) (15)
	42P	(Patrol Wing and Squadron) (VP) (PATWING 2) (42); (VP-22) (30); (VP-30) (100); (VP-46) (24)
	42Q	(Fleet Logistic Support Wing and Squadron) (Less 42Q3, VRC-50) (15)
	42Q3	(Fleet Logistics Support Wing and Squadron) (VR) (8)
	42R	(Fleet Composite Squadron) (VC) (12)
	42S	(Air Test and Evaluation Squadron) (VX), (Antarctic Development Squadron (VXE) and Oceanographic Development Squadron (VXN) (20)
	42T	(Tactical Air Control Group and Squadron) (VTC) (3)
	42U	(Helicopter Combat Support Squadron) (HC) (12) (Less HC-3, HC-6, HC-11, and HC-8)
	42U	(Helicopter Combat Support Squadron) (HC) (HC-3) (20); (HC-6) (40); (HC-11) (25); (HC-8) (30)
	42W	(Helicopter Mine Countermeasures Squadron) (HM) (10)
	42X	(Fleet Air Reconnaissance Squadron) (VQ) (Less VQ-1, VQ-2, VQ-3, and VQ-4)
	42X	(Fleet Air Reconnaissance Squadron) (VQ) (VQ-1 and VQ-2) (30); (VQ-3 and VQ-4) (45) (VQ-11) (10)
	42Z	(Tactical Electronic Warfare Squadron) (VAQ) (Less VAQ-129) (12)
	42Z	(Tactical Electronic Warfare Squadron) (VAQ) (VAQ-129) (30)
	42BB	(Helicopter Anti-Submarine Squadron) (HS) (Less HS-1, and HS-10) (12)
	42BB	(Helicopter Anti-Submarine Squadron) (HS) (HS-1 and HS-10) (30) and (HS-6) (10)
	42CC	(Helicopter Anti-Submarine Squadron, Light) (HSL) (Less HSL-30, HSL-40 and HSL-41) (20)
	42CC	(Helicopter Anti-Submarine Squadron, Light) (HSL) (HSL-30) (35); (HSL-40 and HSL-41) (50)
	42DD	(Carrier Airborne Early Warning Squadron) (VAW) (Less VAW-120) (12)
	42DD	(Carrier Airborne Early Warning Squadron) (VAW) (VAW-110 and VAW-120) (30)
	42GG	(Strike Fighter Squadron) (VFA) (24)
	42HH	(Helicopter Combat Support Special Squadron) (10)
	42XX	(Fighter Squadron Composite Reserve (VFC))
	45A1	(Fleet Marine Force Commands) (2)
	45A2	(Marine Expeditionary Force) (4)
	45B	(Marine Division) (12)
	45O	(Light Antiaircraft Missile Battalion and Headquarters and Service Battery)
	45Q	(Division and Service Support Group and Battalion)
	45T	(Air Naval Gunfire Liaison Company, FMF)
	45V	(Expeditionary Brigade and Unit) (2)
	46	(Fleet Marine Force-Aviation) (Less 46B, 46C1, 46J, 46M1, 46M2, 46P2, 46P4, 46R, 46S, 46T) (5)
	46B	(Aircraft Wing) (CG, Second MAW, only)
	46C1	(Aircraft Group) (Less MAG-24, MAG-12, MAG-14, MAG-11, MAG-36, and MAG-29) (12)
	46C1	(Aircraft Group) (MAG-12 and MAG-14) (45); (MAG-24) (35); (MAG-29) (22, 12 for NAOS); (MAG-36) (20) (MAG-16) (50)

Distribution (continued):

SNDL	46J	(Air Control Squadron) (MACS-2, only) (4)
	46M1	(Headquarters and Headquarters Squadron) (10)
	46M2	(Marine Aviation Logistics Squadron) (MALS-16, only)
	46P2	(Helicopter Squadron) (5) (Less HMLA-267 and HMM-265)
	46P2	(Helicopter Squadron) (HMLA-267) (50); (HMM-265) (10)
	46P4	(Helicopter Training Squadron) (Less HMT-204, HMT-302 and HMT-303) (10) (HMT-301) (15)
	46P4	(Helicopter Training Squadron) (HMT-204) (30); (HMT-302) (35); (HMT-303) (60)
	46R	(Marine Wing Support Squadron)
	46S	(Air Traffic Control Squadron) (6)
	46T	(Training Squadrons) (35)
	49	(Administrative Support Unit) (2)
	50	(Unified and Specified Commands) (2)
	C1	(Naval Personnel at Army Activities) (2)
	C2	(Naval Personnal at Air Force Activities) (2)
	C25A	(OPNAV Support Activity Detachment) (Ft. Detrick)
	C3	(Naval Personnel at DOD or other Government Agencies)
	C5	(Military Assistance Advisory Groups) (Less C5G Netherlands)
	C5G	(Office of Defense Cooperation Netherlands, only (2))
	C6B	(Military Groups) (Quito, Ecuador, only)
	C7	(U.S. Defense Attache Offices) (London, only) (10)
	C40	(Shore-Based Detachments Meteorology & Oceanography)
	C43A	(Security Group Detachments)
	C49B	(Scientific and Technical Group)
	C58J	(Air Maintenance Training Group Detachment) (30) (NAMTRADET Cecil Field (66))
	C84C	(Sea Support Center Detachments)
	C84D	(Naval Undersea Warfare Center Detachments) (2)
	C4C	(Finance Center)
	E3A	(Laboratory ONR)
	E7A	(Activities Under the Command of the Auditor General of the Navy)
	FA6	(Air Station LANT) (15) (Less NAS Cecil Field, NAS Jacksonville, NAS Keflavik, and NAS Norfolk)
	FA6	(Air Station LANT) (NAS Cecil Field, NAS Jacksonville and NAS Keflavik) (30); (NAS Norfolk) (50)
	FA7	(Station LANT) (12)
	FA23	(Naval Facility LANT)
	FA30	(Weapons Training Facility LANT)
	FA47	(NAVHOSP) (Portsmouth, VA, only)
	FA49	(Medical Clinic LANT)
	FB6	(Air Facility PAC) (15)
	FB7	(Air Station PAC) (24)
	FB34	(Fleet Activities)
	FB44	(Missile Range Facility) (5)
	FB48	(Support Facility PAC)
	FB58	(Hospital/Medical Center PAC) (Okinawa, only)
	FB60	(Medical Clinic PAC)
	FC4	(Air Facility EUR) (United Kingdom (40))
	FC7	(Station EUR) (12)
	FC11	(Security Force Company Marine Corps, EUR)
	FC14	(Air Station EUR) (22)
	FC16	(Medical Clinic EUR)
	FC17	(Hospital EUR)

Distribution (continued):

SNDL	FD	(Shore Activities under the Command of COMNAVMETOCCOM as delegated by the CNO) (Less FD2 and FD4)
	FD2	(Naval Oceanographic Office)
	FD4	(Oceanography Center) (NAVPOLAROCEANCEN, Suitland, MD, only)
	FE4	(Security Group Activity) (4)
	FF5	(Safety Center) (20)
	FF6	(Observatory)
	FF8	(Inspection and Survey Board) (Washington, DC, only)
	FF38	(Naval Academy) (30)
	FF42	(SCOL Postgraduate) (20)
	FF44	(Naval War College) (2)
	FF72	(Medical Clinic)
	FG6	(Computer and Telecommunications Area Master Station) (Guam, only)
	FH1	(Medicine and Surgery) (Code 02T, 03, 03C, 3C13, 3C1, and 3C12 only) (5)
	FH7	(Medical Research Institute)
	FH15	(Environmental and Preventative Medicine Unit) (2)
	FH18	(Aerospace and Operational Medical Institute) (20)
	FJA9	(Enlisted Personnel Management Center)
	FJA10	(Manpower Analysis Center)
	FJB1	(Recruiting Command) (5)
	FJB2	(Recruiting Area) (3)
	FJB3	(Recruiting District) (3)
	FKA1A	(Air Systems Command) (00, 1.0, 4.0, 5.0, 6.0) (10); (5.0F) (30)
	FKA1C	(Facilities Engineering Command) (0662B, only)
	FKA8F2	(Program Management Office) (8)
	FKN1	(Facilities Engineering Command Division) (3)
	FKP1E	(Undersea Warfare Center and Divisions) (Newport) (Code 3825, only)
	FKP4A	(Coastal Systems Station) (Dahlgren Division)
	FKP4E	(Surface Warfare Center) (Dahlgren) (Indian Head only)
	FKP21	(Sea Logistics Center) (4)
	FKR1A	(Air Station NAVAIRSYSCOM) (20)
	FKR1B	(Aviation Depot) (10)
	FKR1C	(Marine Aviation Detachment NAVAIRSYSCOM) (10)
	FKR6A	(Air Warfare Center Aircraft and Training Systems Division) (Patuxent River (20); Indianapolis (3); and Trenton (2), only)
	FKR6B	(Air Warfare Center Weapons Division) (Point Mugu, only) (10)
	FKR6C	(Air Weapons Station) (25)
	FKR6D1	(Naval Test Wing Atlanta) (10)
	FKR6D2	(Naval Test Wing Pacific) (10)
	FKR6E	(Naval Strike Aircraft Test Squadron) (30)
	FKR6F	(Naval Rotary Wing Aircraft Test Squadron) (30)
	FKR6G	(Naval Force Aircraft Test Squadron) (3)
	FKR6H	(Naval Test Pilot School) (30)
	FKR6I	(Naval Weapons Test Squadron) (30)
	FKR7	(Maintenance Assistance Activities) (4) (Less FKR7F)
	FR3	(Air Station) (Less NAS Willow Grove and NAS Dallas) (12)
	FR3	(Air Station) (NAS Willow Grove) (33); (NAS Dallas (22)
	FR4	(Air Facility NAVRESFOR) (12)
	FR5	(Air Reserve) (12)
	FR10	(Reserve Center) (Omaha, only) (12)
	FR14	(Air Reserve Center) (16)
	FR16	(Air Reserve ASW Training Center) (8)
	FS1	(Intelligence) (5)
	FT1	(Chief of Naval Education and Training) (12)
	FT2	(Air Training) (30)

Distribution (continued)

SNDL	FT6	(Air Station CNET) (25) (Less NAS Corpus Christi, NAS Kingsville, TX and NAS Whiting Field
	FT6	(Air Station CNET) (NAS Corpus Christi) (250); (NAS Kingsville) (41); (NAS Whiting Field) (400)
	FT9	(Aviation Museum)
	FT10	(Aviation Schools Command) (26)
	FT12	(Air Maintenance Training Group) (3)
	FT13	(Air Technical Training Center) (4)
	FT16	(Marine Aviation Training Support Group, CNET) (65)
	FT19	(Administrative Unit)
	FT22	(Fleet Combat Training Center)
	FT24	(Fleet Training Center) (FTC, San Diego (3))
	FT28	(Education and Training Center)
	FT39	(Technical Training Center) (Meridian) (60)
	FT43	(Surface Warfare Officers School Command)
	FT45	(SCOL Explosive Ordnance Disposal)
	FT46	(Fleet Anti-Submarine Warfare Training Center)
	FT51	(Fleet and Mine Warfare Training Center)
	FT65	(Fleet Intelligence Training Center)
	FT74	(Naval Reserve Officers Training Corps Unit)
	FT78	(Education and Training Program Management Support Activity)
	FT79	(Flight Demonstration Squadron) (Blue Angels) (5)
	FT90	(Training Air Wing) (6) (Less Training Air Wing 5)
	FT90	(Training Air Wing) (Training Air Wing 5) (425)
	FT91	(Training Squadron) (12) (Less TRARON 7, TRARON 9, and TRARON 10)
	FT 91	(Training Squadron) (TRARON 7) (70); (TRARON 9) (33); (TRARON 10) (100)
	FT108	(Hospital Medical Center PAC)
	FW1	(National Naval Medical Center)
	FW3	(Hospital NDW)
	FW4	(Medical Clinic NDW)
	V3	(Marine Corps Air Base Commanders) (12)
	V4	(Marine Corps Air Facility) (Less MCAF Quantico) (6)
	V4	(Marine Corps Air Facility) (MCAF Quantico) (30)
	V5	(Marine Corps Air Station) (Less MCAS Beaufort) (25)
	V5	(Marine Corps Air Station) (MCAS Beaufort) (35)
	V11	(Marine Corps Institute) (2)
	V12	(Combat Development Command Marine Corps)
	V15	(Marine Corps District) (Garden City, Philadelphia, only)
	V16	(Marine Corps Base)
	V22	(Marine Corps Aircraft Group) (10)
	T-100V	(AE) (Ammunition Ship)
	T-100W	(AFS) (Combat Store Ship) (SPICA only)
	OPNAV	(N865, N889E, N881D, N413T, N880E4, N885F, N880F, N889J3, (100), N51, N63)

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(Joint War Games Agency, OJCS, Washington, DC 20390)
(Marine Corps Combat Development Command (C4614A), 2008 Elliot Road, Quantico, VA 22134-5029)
(Navy Marine Corps Auxiliary Landing Field, Bogue, Newport NC 28570)
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TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 262, CONSISTING OF THE FOLLOWING:

RECORD OF CHANGES

Change No. and Date of Change	Date of Entry	Page Count Verified by (Signature)

INTERIM CHANGE SUMMARY

The following Interim Changes have been canceled or previously incorporated in this manual:

INTERIM CHANGE NUMBER(S)	REMARKS/PURPOSE
1 thru 18	Previously Incorporated

The following Interim Changes have been incorporated in this Change/Revision:

INTERIM CHANGE NUMBER(S)	REMARKS/PURPOSE
19	IFR Filing Criteria
20	Cross Country Flights and Risk Assessment
21	COD Night Operations With Passengers
22	Addresses Policies Governing Potential Mixing of Varying Performance NVDs in DON Aircraft

Interim Changes Outstanding – To be maintained by the custodian of this manual:

INTERIM CHANGE NUMBER	ORIGINATOR/DATE (or DATE/TIME GROUP)	PAGES AFFECTED	REMARKS/PURPOSE

RAAUZYUW RUENAAA0994 0871751-UUUU--RUENCGU.
ZNR UUUUU
RUHEHMS T COMMARFORPAC
RUHGNAP T FLELOGSUPPRON FIVE ZERO
RUWNAVC T HSL FOUR FIVE DET TEN
R 281750Z MAR 01 ZYB
FM CNO WASHINGTON DC//N789J//
TO RUEACMC/CMC WASHINGTON DC//ASL/SD//
RHMFIUU/CMC WASHINGTON DC//ASL/SD//
RUCOSSA/COMNAVAIRLANT NORFOLK VA//N3/N45/N455//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N8//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N3/N35//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//5.0F//
RUCBLFB/COMMARFORLANT//DSS//
RHMFIUU/COMMARFORLANT//DSS//
RUHEHMS/COMMARFORPAC//SAFETY//
RUCCNOQ/CG FOURTH MAW//DOSS//
RHMFIUU/CG FOURTH MAW//DOSS//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N3/N3141//
RHMFIUU/CNATRA CORPUS CHRISTI TX//N3/N3141//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//10/11/11A//
RHMFIUU/COMNAVSAFECEN NORFOLK VA//10/11/11A//
INFO RUCBCLF/CINCLANTFLT NORFOLK VA//N31//
RHHMHAA/CINCPACFLT PEARL HARBOR HI//N31/335//
RUENMED/BUMED WASHINGTON DC//MED23//
RHMFIUU/BUMED WASHINGTON DC//MED23//
RUCTPOA/CNET PENSACOLA FL//N3//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
RHMFIUU/NAVOPMEDINST PENSACOLA FL//06//
RUCCFLE/COMNAVMETOCCOM STENNIS SPACE CENTER MS//N3//
RHMFIUU/COMNAVMETOCCOM STENNIS SPACE CENTER MS//N3//
AIG SIX NINE FOUR ZERO
AIG SIX NINE FOUR ONE
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MSGID/GENADMIN/N789//
SUBJ/INTERIM CHANGE NUMBER 30 TO OPNAVINST 3710.7R NATOPS GENERAL
/FLIGHT AND OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAV/YMD:19970115//
AMPN/REF A IS NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS//
POC/LEINGANG, D. M./CDR/N789J3/-/TEL:703-604-7766//
RMKS/1. THIS IS INTERIM CHANGE NUMBER 30 TO REF A (OPNAVINST
3710.7R).
2. PURPOSE. UPDATES INFORMATION ON WEATHER BRIEFINGS AND WEATHER
CRITERIA FOR FILING FLIGHT PLANS TO REFLECT CURRENT WEATHER
TERMINOLOGY AND PROCEDURES.
3. CHANGE REF A (OPNAVINST 3710.7R) AS FOLLOWS:
A. CHAPTER 4, PAGE 4-6, PARAGRAPHS 4.6.3.1 THROUGH 4.6.3.3:
 (1) DELETE EXISTING PARAGRAPHS.
 (2) ADD (INSERT) REPLACEMENT PARAGRAPHS:
     4.6.3.1 GENERAL. PILOTS ARE RESPONSIBLE FOR BEING THOROUGHLY
     FAMILIAR WITH WEATHER CONDITIONS FOR THE AREA IN WHICH FLIGHT
     IS CONTEMPLATED. WHERE NAVAL METEOROLOGY AND OCEANOGRAPHY
     COMMAND (NMOC) OR UNITED STATES MARINE CORPS WEATHER SERVICES
     ARE LOCALLY AVAILABLE, A FLIGHT WEATHER BRIEFING SHALL BE
     OBTAINED FROM A QUALIFIED METEOROLOGICAL FORECASTER. WEATHER
     BRIEFINGS MAY BE OBTAINED IN PERSON, BY TELEPHONE, BY

FACSIMILE, OR BY REMOTE COMPUTER-BASED WEATHER BRIEFING SYSTEM. IF NMOC OR USMC SERVICES ARE NOT LOCALLY AVAILABLE, AN FAA-APPROVED WEATHER BRIEFING FROM EITHER A FLIGHT SERVICE STATION (FSS) OR DIRECT USER ACCESS TERMINAL SYSTEM (DUATS) MAY BE SUBSTITUTED.

4.6.3.2 FLIGHT WEATHER BRIEFING FORM. NAVY AND MARINE CORPS FORECASTERS ARE REQUIRED TO PROVIDE FLIGHT WEATHER BRIEFINGS USING EITHER DD175-1 FORMS, OR VFR CERTIFICATION STAMPS WHEN VFR FLIGHT IS AN ACCEPTABLE ALTERNATIVE. A DD175-1 FLIGHT WEATHER BRIEFING FORM SHALL BE COMPLETED WHENEVER AN IFR FLIGHT PLAN IS FILED. THE FORECASTER WILL COMPLETE THE FORM FOR BRIEFINGS CONDUCTED IN PERSON, BY FACSIMILE, OR BY REMOTE COMPUTER-BASED WEATHER BRIEFING SYSTEM. IT IS THE PILOT'S RESPONSIBILITY TO COMPLETE THE FORM FOR BRIEFINGS CONDUCTED BY TELEPHONE. FOR A VFR FLIGHT USING A DD175 FORM, THE FOLLOWING CERTIFICATION STAMP ON THE FLIGHT PLAN MAY BE USED IN LIEU OF A COMPLETED DD175-1:

"BRIEFING VOID _____Z, FLIGHT AS PLANNED CAN BE CONDUCTED UNDER VISUAL FLIGHT RULES. VERBAL BRIEFING GIVEN AND HAZARDS EXPLAINED. FOLLOWING SIGMETS ARE KNOWN TO BE CURRENTLY IN EFFECT ALONG PLANNED ROUTE OF FLIGHT.

_____
(SIGNATURE OF FORECASTER)"

NOTE

WEATHER BRIEFINGS MAY BE CONDUCTED AT ANY TIME PRIOR TO DEPARTURE AND ALL WILL INCLUDE BRIEFING NUMBER AND VOID TIME. HOWEVER, BRIEFING-VOID TIME CANNOT EXCEED 2.5 HOURS PAST BRIEFING TIME OR ETD PLUS ONE-HALF HOUR. BRIEFINGS RECEIVED MORE THAN 2.5 HOURS PRIOR TO TAKEOFF WILL BE VOID AND REQUIRE REBRIEFING PRIOR TO DEPARTURE.

NOTE

IF THE INTENDED VFR FLIGHT PLAN INCLUDES A MISSION (E.G., OLIVE BRANCH) OR AN AIRFIELD WITH VFR MINIMUMS HIGHER THAN THE BASIC VFR 1000-FOOT CEILING AND 3-STATUTE-MILE VISIBILITY, IT IS THE RESPONSIBILITY OF THE PILOT TO ADVISE THE WEATHER BRIEFER OF THE HIGHER MINIMUMS.

NOTE

PILOTS PLANNING TO FLY CANNED OR STEREO ROUTES SHALL CONSULT THEIR LOCAL FORECAST ACTIVITY TO VERIFY ACCEPTABLE WEATHER CONDITIONS. VERIFICATION MAY BE OBTAINED IN PERSON, BY TELEPHONE, BY FACSIMILE, OR BY REMOTE COMPUTER-BASED WEATHER BRIEFING SYSTEM.

4.6.3.3 FLIGHT WEATHER PACKET. A FLIGHT WEATHER PACKET, INCLUDING A HORIZONTAL WEATHER DEPICTION (HWD) CHART, MAY BE REQUESTED WHERE NAVY AND MARINE CORPS WEATHER SERVICES ARE AVAILABLE. PILOTS SHOULD NORMALLY ALLOW A MINIMUM OF 2 HOURS FOR PREPARATION OF THE PACKET. ITEMS PROVIDED IN THE FLIGHT WEATHER PACKET ARE LISTED IN NAVMETOCCOMINST 3140.14.

B. CHAPTER 4, PAGE 4-7, PARAGRAPH 4.6.4.5 AVIATION SEVERE WEATHER WATCH BULLETINS:

(1) DELETE PARAGRAPH TITLE AND FIRST PARAGRAPH.

(2) ADD (INSERT) REPLACEMENT TITLE AND PARAGRAPH:

4.6.4.5 SEVERE WEATHER WATCH BULLETINS. THE NATIONAL WEATHER SERVICE STORM PREDICTION CENTER ISSUES UNSCHEDULED WEATHER WATCH (WW) BULLETINS AS GRAPHICAL ADVISORIES FOR THE CONTINENTAL UNITED STATES WHENEVER A HIGH PROBABILITY EXISTS FOR SEVERE WEATHER. THE AIR FORCE ALSO ISSUES SCHEDULED

MILITARY WEATHER ADVISORIES (MWA) IN GRAPHICAL FORM FOR THE SAME GEOGRAPHIC AREAS. BOTH PROVIDE ESTIMATES OF THE POTENTIAL FOR CONVECTIVE ACTIVITY FOR A SPECIFIC TIME PERIOD, WILL BE PROVIDED TO PILOTS OR CERTIFIED CREWMEMBERS UPON REQUEST, AND ARE INCLUDED WITH ALL BRIEFINGS. AN AIR FORCE MWA DOES NOT CONSTITUTE A STORM PREDICTION CENTER WW. EXCEPT FOR OPERATIONAL NECESSITY, EMERGENCIES, AND FLIGHTS INVOLVING ALL-WEATHER RESEARCH PROJECTS OR WEATHER RECONNAISSANCE, PILOTS SHALL NOT FILE INTO OR THROUGH AREAS FOR WHICH THE STORM PREDICTION CENTER HAS ISSUED A WW UNLESS ONE OF THE FOLLOWING EXCEPTIONS APPLY:

(3) RETAIN SUBPARAGRAPHS A AND B (WITH NOTE) WITHOUT CHANGES.

C. CHANGE APPENDIX C, SELECTED AVIATION INSTRUCTIONS, NUMBER 3140.14D:

(1) DELETE SOURCE: "OCEANNAVMETOCCOM"

(2) ADD REPLACEMENT SOURCE: "NAVMETOCCOM"

4. NAVAL METEOROLOGY AND OCEANOGRAPHY COMMAND POC IS CNMOC(N312) LCDR TIM LANE, DSN 485-5748 OR COMM (228) 688-5748, E-MAIL LANET@CNMOC.NAVY.MIL. CNO POC IS (N789J3) CDR D.M.LEINGANG, DSN 664-7766 OR COMM (703) 604-7766, E-MAIL LEINGANG.DONALD@HQ.NAVY.MIL.

5. REQUEST WIDEST DISSEMINATION OF THIS MESSAGE. THIS MESSAGE WILL BE POSTED ON THE CNO NATOPS WEB SITE, WWW.HQ.NAVY.MIL/NATOPS, AND THE NATEC WEB SITE, WWW.NATEC.NAVY.MIL. IF UNABLE TO VIEW THIS MSG ON EITHER WEB SITE WITHIN 15 DAYS OF RELEASE, PLEASE INFORM THE CNO NATOPS OFFICE AT DSN 288-5797 OR COMM (202) 433-5797.//

BT

PAAUZYUW RUENAAA5532 2232123-UUUU--RUENNSN.
ZNR UUUUU
RHOCDKP T HSL FOUR FIVE DET SIX
RUCCNOQ T CG FOURTH MAW
RUHEHMS T COMMARFORPAC
RUHGNAP T FLELOGSUPPRON FIVE ZERO
RUWNAVC T HSL FOUR FIVE DET TEN
P 102119Z AUG 00 ZYB
FM CNO WASHINGTON DC//N889//
TO RUEACMC/CMC WASHINGTON DC//AVN/SD//
RHMFIUU/CMC WASHINGTON DC//AVN/SD//
RUCOSSA/COMNAVAIRLANT NORFOLK VA//N3/N45/N455//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N3/N8//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//5.0F//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N3/N35//
RUCBLFB/COMMARFORLANT//DSS//
RUHEHMS/COMMARFORPAC//SAFETY//
RHMFIUU/COMMARFORPAC//SAFETY//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//10/11A/N3//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N3//
RUCCNOQ/CG FOURTH MAW//DOSS//
RHMFIUU/CG FOURTH MAW//DOSS//
INFO RHHMHAA/CINCPACFLT PEARL HARBOR HI//N31//
RUCBCLF/CINCLANTFLT NORFOLK VA//N31//
RUENMED/BUMED WASHINGTON DC//MED 23//
RUCCBWF/BUPERS MILLINGTON TN//PERS 43//
RUCTPOA/CNET PENSACOLA FL//N00//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
RUDJABF/NAVWARCOL NEWPORT RI//213//
AIG SIX NINE FOUR ZERO
AIG SIX NINE FOUR ONE
BT
UNCLAS //N03711//
MSGID/GENADMIN/N889//
SUBJ/INTERIM CHANGE (IC) NUMBER 29 TO OPNAVINST 3710.7R NATOPS
/GENERAL FLIGHT AND OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAVINST 3710.7R/15JAN97//
REF/B/MSG/CNO WASH DC/062033ZNOV98//
REF/C/MSG/CNO WASH DC/241333ZFEB99//
REF/D/MSG/COMNAVAIRSYSCOM/152000ZJUN00//
REF/E/DOC/CNO WASH DC/01SEP99//
NARR/REF A IS NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS.
REF B IS IC 23 TO OPNAVINST 3710.7R (REF A). REF C IS IC 25 TO
OPNAVINST 3710.7R (REF A). REF D IS IC 74 TO NAVAIR A1-F18AC-
NFM-000 (F/-18A/B/C/D NFM). REF E IS NAVAIR A1-F18AC-NFM-000 DTD
15JAN97 WITH CHG 5 DTD 01SEP99.//
POC/LEINGANG D.M./CDR/N889J3/-/TEL:DSN 664-7766/TEL:COMM (703)
604-7766//
RMKS/1. THIS IS IC NUMBER 29 TO REF A (OPNAVINST 3710.7R).
2. SUMMARY. ADDS CERTIFIED BODY WEIGHTS FOR THE SJU-17A(V) NACES
EJECTION SEAT AND UPDATED OTHER AIRCRAFT EJECTION SEAT INFORMATION IN
THE COMNAVAIRSYSCOM-CERTIFIED CREWMEMBER WEIGHTS TABLE INSERTED INTO
REF A BY REF B AND MODIFIED BY REF C.
3. CHANGE REF A (OPNAVINST 3710.7R) WITH REFS B AND C INCORPORATED,
CHAPTER 8, PAGE 8-10, PARAGRAPH 8.3.2.18 BODY WEIGHT FOR EJECTION
SEAT AIRCRAFT, IN COMNAVAIRSYSCOM-CERTIFIED CREWMEMBER WEIGHTS TABLE,
AS FOLLOWS:

A. DELETE:

AV-8B	SJU-4	136-213
F-14A/B/D	GRU-7A/SJU-17	136-213
F/A-18A/B/C/D/E/F	SJU-5/6/17	136-213
T-45A/C	SJU-17	136-213

B. ADD:

T/AV-8B	SJU-4/12/13	136-213
F-14A/B	GRU-7A	136-213
F-14D	SJU-17(V) 3/A,4/A	136-213
F/A-18A/B/C/D (BUNO 164068 AND PRIOR (PRE-LOT 13))	SJU-5/-6	136-213
F/A-18C/D/E/F (BUNO 164196 AND UP)	SJU-17(V) 1/A,2/A,9/A	136-213
F/A-18C/D/E/F (BUNO 164196 AND UP)	SJU-17A(V) 1/A,2/A,9/A	136-245
T-45A/C	SJU-17(V) 5/A,6/A	136-213
T-45A/C	SJU-17A(V) 5/A,6/A	136-245

4. REF D CHANGED CREWMEMBER WEIGHT RANGE IN REF E (F/A-18A/B/C/D NFM) FOR AIRCRAFT WITH SJU-17A(V) SEATS TO 100-245 POUNDS. HOWEVER, SUBSEQUENT ANALYSIS HAS REVEALED THAT RISKS FOR INJURY TO CREWMEMBERS WEIGHING LESS THAN 136 POUNDS EJECTING AT AIRSPEEDS ABOVE 300 KIAS REMAIN UNACCEPTABLY HIGH. AS A RESULT, ANOTHER IC MSG WHICH MODIFIES REF E TO AGREE WITH THE ABOVE WEIGHTS WILL BE RELEASED SHORTLY.
5. REQUEST WIDEST DISSEMINATION OF THIS MESSAGE. OPNAV 3710.7R AND ALL OTHER 3710.7 INTERIM CHANGES CAN BE VIEWED AND DOWNLOADED AT THE FOLLOWING CNO NATOPS WEBSITE: WWW.HQ.NAVY.MIL/NATOPS. AT SITE, SELECT CATALOG, THEN SELECT OPNAVINST 3710. //
BT

ZNR UUUUU
RHOCDKP T HSL FOUR FIVE DET SIX
RUCCNOQ T CG FOURTH MAW
RUHEHMS T COMMARFORPAC
RUHGNAP T FLELOGSUPPRON FIVE ZERO
RUWIBHR T VMA FIVE ONE THREE
RUWNAVC T HSL FOUR FIVE DET TEN
P R 241727Z MAY 00 ZYB
FM CNO WASHINGTON DC//N889//
TO RUEACMC/CMC WASHINGTON DC//SD//
RUCOSSA/COMNAVAIRLANT NORFOLK VA//N3/N45/N455/N8//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N3/N8//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//5.0D/5.0F//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N35//
RUCBLFB/COMMARFORLANT//DSS//
RUHEHMS/COMMARFORPAC//SAFETY//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N3//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//11/11A//
RUCCNOQ/CG FOURTH MAW//DOSS//
INFO RHHMHAA/CINCPACFLT PEARL HARBOR HI//N3/N335//
RUCBCLF/CINCLANTFLT NORFOLK VA//N00IG/N00IG2//
RUENMED/BUMED WASHINGTON DC//MED 23//
RUCTPOA/CNET PENSACOLA FL//N00/OTE2/OTE6//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
AIG SIX NINE FOUR ZERO
AIG SIX NINE FOUR ONE
BT
UNCLAS //N03711//
MSGID/GENADMIN/N889J//
SUBJ/INTERIM CHANGE (IC) 28 TO OPNAVINST 3710.7R NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAVINST 3710.7R/15JAN97//
REF/B/RMG/CNO WASHINGTON DC/042052ZAUG99//
REF/C/TEL/N889J3/24MAY00//
NARR/REF A IS NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS. REF B IS CNO NAVOP 006/99 ON INTERDEPLOYMENT TRAINING CYCLE (IDTC) WORKLOAD REDUCTION. REF C IS PHONCON BTWN CDR LEINGANG, OPNAV N889J3 AND MS WAMPLER, DEPUTY FRB SECRETARIAT. //
POC/LEINGANG, D.M./CDR/N889J3/-/TEL:DSN 664-7766/TEL:COMM (703) 604-7766.//
RMKS/1. THIS IS INTERIM CHANGE NUMBER 28 TO REF A (OPNAVINST 3710.7R).
2. SUMMARY. REF B DIRECTED NATOPS UNIT EVALUATIONS TO BE CONDUCTED ONCE PER IDTC (NOTIONALLY 18 MONTHS) NOT TO EXCEED 24 MONTHS. REF C REQUESTED AN INTERIM CHANGE MESSAGE BE RELEASED BY THE NATOPS PROGRAM MANAGER TO SUPPLEMENT REF B.
3. CHANGE REF A AS FOLLOWS:
A. CHAPTER 2, PAGE 2-23, PARAGRAPH 2.6.8 UNIT NATOPS EVALUATIONS:
(1) DELETE: SUBPARAGRAPH D
(2) ADD (REPLACE WITH):
D. THE 18 MONTH EVALUATION CYCLE MAY BE EXTENDED TO 24 MONTHS BY THE NATOPS EVALUATOR FOR CIRCUMSTANCES SUCH AS EXTENDED DEPLOYMENTS OR TO CONSOLIDATE TRAINING REQUIREMENTS WITHIN THE INTERDEPLOYMENT TRAINING CYCLE. THIS IS INTENDED FOR UNITS WHOSE PREVIOUS EVALUATIONS INDICATED A HIGH DEGREE OF NATOPS PROGRAM EFFECTIVENESS.
4. REQUEST WIDEST DISSEMINATION OF THIS MESSAGE.//
BT

PAAUZYUW RUENAAA0613 2521937-UUUU--RUENNSN.
ZNR UUUUU
RUCCNOQ T CG FOURTH MAW
RUHEHMS T COMMARFORPAC
P R 091844Z SEP 99 ZYB
FM CNO WASHINGTON DC//N889//
TO RUEACMC/CMC WASHINGTON DC//SD//
RUCOSSA/COMNAVAIRLANT NORFOLK VA//N3/N32/N45/N455//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N3/N34/N8//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//5.0D/5.0F//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N3/N35/N37//
RUCBLFB/COMMARFORLANT//DSS//
RUHEHMS/COMMARFORPAC//SAFETY//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N3//
RUCCNOQ/CG FOURTH MAW//DOSS//
INFO RHHMHBA/CINCPACFLT PEARL HARBOR HI//N31/N335//
RUCBCLF/CINCLANTFLT NORFOLK VA//N31//
RUCTPOA/CNET PENSACOLA FL//N00//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//11A//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
RUDJABF/NAVWARCOL NEWPORT RI//213//
BT
UNCLAS //N03711//
MSGID/GENADMIN/N889J//
PAGE 02 RUENAAA0613 UNCLAS
SUBJ/INTERIM CHANGE NUMBER 27 TO OPNAVINST 3710.7R NATOPS GENERAL
/FLIGHT AND OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAVINST 3710.7R/15JAN97//
AMPN/REF A IS NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS.//
RMKS/1. THIS IS INTERIM CHANGE NUMBER 27 TO REF A (OPNAVINST
3710.7R).
2. CHANGE REF A, CHAPTER 5, PAGE 5-21, FLIGHT OPERATIONS WITH NIGHT
VISION DEVICES, PARAGRAPH 5.7.2 OPERATING LIMITATIONS,
SUBPARAGRAPH D, AS FOLLOWS:
A. IN SECOND SENTENCE:
   (1) DELETE: "NVD LIGHT LEVEL PLANNING CALENDAR"
   (2) ADD (INSERT) "SOLAR/LUNAR ALMANAC PROGRAM (SLAP)", SO THAT
       SENTENCE READS AS FOLLOWS:
        THE APPROVED METHODS OF DERIVING ILLUMINATION LEVELS ARE
        THE SOLAR/LUNAR ALMANAC PROGRAM (SLAP) COMPUTER PROGRAM
        OR AS DETERMINED BY A CNO/CMC-APPROVED STUDY OF THE
        ILLUMINATION LEVEL UNDER VARIOUS CONDITIONS.
B. AFTER SECOND SENTENCE:
   (1) DELETE: NA
   (2) ADD (INSERT):
        THE SLAP COMPUTER PROGRAM IS AVAILABLE ON THE MAWTS-1
        (WWW.TEDIV.USMC.MIL/MAWTS1), NAVOCEANO (WWW.NAVO.NAVY.MIL),
        AND SIPRNET WEB SITES.
3. SUMMARY. THE CURRENT NVD LLPC COMPUTER PROGRAM HAS EXCEEDED ITS
USEFUL SERVICE LIFE AND REQUIRES REPLACEMENT. THE SLAP COMPUTER
PROGRAM IS A WINDOWS-BASED PROGRAM THAT EXCEEDS THE FUNCTIONALITY OF
THE CURRENTLY-AUTHORIZED LLPC COMPUTER PROGRAM, AFFORDS GREATER
ACCURACY, AND IS Y2K COMPLIANT.
4. CNO POC IS CDR DON LEINGANG AT DSN 664-7766, COMM (703)-604-7766,
OE E-MAIL AT LEINGANG.DONALD@HQ.NAVY.MIL. MAWTS-1 POCS ARE LCDR
BLOW, AMSO AT DSN 951-3652/2500 OR E-MAIL BLOWCA@MAWTS1.USMC.MIL,
AND CAPT DIXON, WEATHER OFFICER AT DSN 951-2534 OR E-MAIL

99-31

DIXONJJ@MAWTS1.USMC.MIL.//
BT

PATUZYUW RUENAAA0938 1541920-UUUU--RUENNGG.
ZNR UUUUU
RUCCNOQ T CG FOURTH MAW
RUHEHMS T COMMARFORPAC
P R 031823Z JUN 99 ZYB
FM CNO WASHINGTON DC//N889//
TO RUEACMC/CMC WASHINGTON DC//SD//
RUCOSSA/COMNAVAIRLANT NORFOLK VA//N45/N455//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N3/N8//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//5.0D/5.0F//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N35//
RUCBLFB/COMMARFORLANT//DSS//
RUHEHMS/COMMARFORPAC//SAFETY//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N3//
RUCCNOQ/CG FOURTH MAW//DOSS//
RULSABC/USNA ANNAPOLIS MD//JJJ//
INFO RHHMHAH/CINCPACFLT PEARL HARBOR HI//N31//
RUCBCLF/CINCLANTFLT NORFOLK VA//N31//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//11A//
RUENMED/BUMED WASHINGTON DC//MED 23//
RUCCBWF/BUPERS MILLINGTON TN//PERS 43//
RUCTPOA/CNET PENSACOLA FL//N00/OTE2/OTE6/082//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
PAGE 02 RUENAAA0938 UNCLAS
BT
UNCLAS //N03711//
MSGID/GENADMIN/N889J//
SUBJ/INTERIM CHANGE (IC) 26 TO OPNAVINST 3710.7R NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAVINST 3710.7R/15JAN97//
AMPN/REF A IS NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS.//
POC/LEINGANG, D.M./LCDR/N889J3/-/TEL:DSN 664-7766/TEL:COMM (703) 604-7766.//
RMKS/1. THIS IS INTERIM CHANGE NUMBER 26 TO REF A (OPNAVINST 3710.7R).
2. SUMMARY. UPDATES NAVAL AVIATION SURVIVAL TRAINING PROGRAM CURRICULUM REQUIREMENTS FOR SELECTED PASSENGERS, PROJECT SPECIALISTS, MIDSHIPMEN, VIPS, MILITARY NON-AVIATOR AND NON-MILITARY PERSONNEL SELECTED FOR ORIENTATION FLIGHTS.
3. CHANGE REF A AS FOLLOWS:
A. GLOSSARY, PAGE XXV, SELECTED PASSENGERS, TO LAST SENTENCE:
(1) DELETE: NA
(2) ADD:
AND SHALL HAVE FLYING REQUIREMENTS WHICH REQUIRE FLIGHT ON A REGULAR BASIS FOR MISSION ACCOMPLISHMENT WHICH EXTEND BEYOND
PAGE 03 RUENAAA0938 UNCLAS
A 90 DAY FLYING PERIOD. THIS CATEGORY IS NOT APPROPRIATE FOR THOSE COMPLETING ORIENTATION FLIGHTS, OR FOR MIDSHIPMEN.
B. CHAPTER 3, PAGE 3-5, PARAGRAPH 3.2.3 FLIGHT PREREQUISITES:
(1) DELETE SUBPARAGRAPHS B THROUGH E:
(2) ADD (REPLACE WITH):
B. NON-AVIATION DESIGNATED PERSONNEL REQUIRED TO FLY IN AN AIRCRAFT WITH EJECTION SEATS AND/OR PERSONAL OXYGEN SYSTEMS ON A REGULAR BASIS FOR MISSION ACCOMPLISHMENT BEYOND A 90 DAY FLYING PERIOD SHALL COMPLETE SELECTED PASSENGER NASTP N3/NP3 TRAINING.

99-12

C. NON-AVIATION DESIGNATED PERSONNEL REQUIRED TO FLY IN AN AIRCRAFT WITHOUT EJECTION SEATS AND/OR PERSONAL OXYGEN SYSTEMS (EXCLUDING EMERGENCY OXYGEN SYSTEMS) ON A REGULAR BASIS FOR MISSION ACCOMPLISHMENT BEYOND A 90 DAY FLYING PERIOD SHALL COMPLETE PROJECT SPECIALIST NASTP N4/NP4 TRAINING.

D. ALL MIDSHIPMEN PARTICIPATING IN ORIENTATION FLIGHTS OR A SUMMER CRUISE WITH THE POSSIBILITY OF FLYING SHALL COMPLETE MIDSHIPMEN NASTP N2/NP7 TRAINING.

E. VIPS, MILITARY NON-AVIATORS, AND NON-MILITARY PERSONNEL

PAGE 04 RUENAAA0938 UNCLAS

SELECTED FOR ORIENTATION FLIGHTS (FLIGHT PERIOD NOT TO EXCEED 90 DAYŠ) SHALL COMPLETE VIP NASTP N2/NP8 TRAINING.

C. CHAPTER 8, PAGE 8-15, PARAGRAPH 8.4.3.5 APPROVED CURRICULA (NAPTP):

(1) SUBPARAGRAPH (3) NP3, LAST SENTENCE:

(A) DELETE LAST SENTENCE.

(B) ADD (REPLACE WITH):

TRAINING IS SPECIFIC FOR TYPE OF AIRCRAFT BEING FLOWN.

(2) SUBPARAGAPH (4) NP4, LAST SENTENCE:

(A) DELETE LAST SENTENCE

(B) ADD (REPLACE WITH):

TRAINING IS SPECIFIC FOR TYPE OF AIRCRAFT BEING FLOWN.

(3) SUBPARAGRAPHS (7) AND (8):

(A) DELETE ALL.

(B) ADD (REPLACE WITH):

(7) NP7. REQUIRED FOR ALL MIDSHIPMEN PARTICIPATING IN ORIENTATION FLIGHTS AND SUMMER CRUISE WITH POSSIBILITIES OF FLIGHT. THE TRAINING IS VALID FOR A PERIOD UP TO 180 DAYS.

(8) NP8. REQUIRED FOR ALL VIPS, MILITARY NON-

PAGE 05 RUENAAA0938 UNCLAS

AVIATORS, AND NON-MILITARY PERSONNEL SELECTED FOR ORIENTATION FLIGHTS. THE TRAINING IS SPECIFIC FOR TYPE OF AIRCRAFT BEING FLOWN AND IS VALID FOR A PERIOD UP TO 90 DAYS.

D. CHAPTER 8, PAGE 8-16, PARAGRAPH 8.4.3.5 APPROVED CURRICULA (NAPTP):

(1) DELETE NA

(2) ADD: PRIOR TO SUBPARAGRAPH (1) RP1:

B. REFRESHER PHYSIOLOGY TRAINING (RP)

E. CHAPTER 8, PAGE 8-17, PARAGRAPH 8.4.4.6 APPROVED CURRICULA:

(1) DELETE NA

(2) ADD TO PARAGRAPH TITLE FOLLOWING CURRICULA: (NAWSTP)

(3) SUBPARAGRAPH A. (2) N2:

(A) DELETE ENTIRE PARAGRAPH

(B) ADD (REPLACE WITH):

(2) N2. REQUIRED FOR ALL VIPS, MILITARY NON-AVIATORS, AND NON-MILITARY PERSONNEL SELECTED FOR ORIENTATION FLIGHTS. N2/NP8 TRAINING IS VALID FOR A PERIOD UP TO 90 DAYS. ALSO REQUIRED FOR ALL MIDSHIPMEN PARTICIPATING IN ORIENTATION FLIGHTS AND/OR SUMMER CRUISE WITH

PAGE 06 RUENAAA0938 UNCLAS

POSSIBILITIES OF FLIGHT. N2/NP7 MIDSHIPMEN TRAINING IS VALID FOR A PERIOD UP TO 180 DAYS.

(4) SUBPARAGRAPH A.(3) N3:

(A) DELETE FIRST SENTENCE.
(B) ADD (REPLACE WITH):
REQUIRED FOR SELECTED PASSENGERS.

F. APPENDIX E, FIGURE E-1 NAVAL AVIATION PHYSIOLOGY TRAINING PROGRAM REQUIREMENTS (SHEET 1 OF 3), AT TOP LEFT OF FIGURE:
(1) DELETE: NA
(2) ADD:

NOTE
WITH IMPLEMENTATION OF SCENARIO-BASED TRAINING PER CNO WASHINGTON DC 241910Z JUL98, APPENDIX E REQUIRES NUMEROUS CHANGES AND WILL BE UPDATED AT NEXT OPNAVINST 3710.7 NATOPS REVIEW CONFERENCE.

4. CNO POC IS LCDR DON LEINGANG AT DSN 664-7766, COMM (703)-604-7766. TRAINING AGENT (BUMED) POC IS CDR ROBERT MATTHEWS AT DSN 762-3457, COMM 202-762-3457. MODEL MANAGER (NOMI) POC IS CDR JIM NORTON DSN 922-4705, COMM 850-452-4705.
5. REQUEST WIDEST DISSEMINATION OF THIS MESSAGE. //
BT

PTAUZYUW RUENAAA0048 0551340-UUUU--RULSTGP.
ZNR UUUUU
RUCCNOQ T CG FOURTH MAW
RUHEHMS T COMMARFORPAC
P R 241333Z FEB 99 ZYB PSN 158209M25
FM CNO WASHINGTON DC//N889//
TO RUEACMC/CMC WASHINGTON DC//AVN/SD//
RUCOSSA/COMNAVAIRLANT NORFOLK VA//N00/N3/N45/N455//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N00/N3/N8//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//N00/5.0D/5.0F//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N00/N3/N35//
RUCBLFB/COMMARFORLANT//N00/DSS//
RUHEHMS/COMMARFORPAC//N00/SAFETY//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//N00/10/11A/N3//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N00/N3//
RUCCNOQ/CG FOURTH MAW//N00/DOSS//
RUCTPOG/NAVAEROMEDRSCHLAB PENSACOLA FL//06//
RUWFADO/NAVSTKAIRWARCEN FALLON NV//00/N3/N5//
INFO RHHMHAH/CINCPACFLT PEARL HARBOR HI//N31//
RUCBCLF/CINCLANTFLT NORFOLK VA//N31//
RUENMED/BUMED WASHINGTON DC//MED 23//
RUCCBWF/BUPERS MILLINGTON TN//PERS 43//
RUCTPOA/CNET PENSACOLA FL//N00//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
PAGE 02 RUENAAA0048 UNCLAS
RULSTGP/COMNAVWARDEVCOM DIV WASHINGTON DC//00/NATOPS//
BT
UNCLAS //N03711//
MSGID/GENADMIN/N889//
SUBJ/INTERIM CHANGE (IC) 25 TO OPNAVINST 3710.7 NATOPS GENERAL FLIGHT /AND OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAVINST 3710.7R/15JAN97//
REF/B/MSG/CNO WASH DC/062033ZNOV98//
NARR/REF A IS NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS, AND REF B IS INTERIM CHANGE NUMBER 23 TO OPNAVINST 3710.7R.//
POC/LEINGANG D.M./LCDR/N889J3/-/TEL:DSN 664-7766/TEL:COMM (703) 604-7766//
RMKS/1. THIS IS IC NUMBER 25 TO REF A (OPNAVINST 3710.7R).
2. SUMMARY. CORRECTS EJECTION SEAT QUALIFIED CREWMEMBER BODY WEIGHTS FOR TA-4F/J AIRCRAFT AND ADDS BODY WEIGHTS FOR F-5E/F AND T-38A AIRCRAFT EJECTION SEATS.
3. CHANGE REF A (OPNAVINST 3710.7R) WITH REF B (IC 23) INCORPORATED, CHAPTER 8, PAGE 8-10, PARAGRAPH 8.3.2.18 BODY WEIGHT FOR EJECTION SEAT AIRCRAFT (ADDED BY IC 23), IN LIST OF COMNAVAIRSYSCOM CERTIFIED CREWMEMBER WEIGHTS AT END OF PARAGRAPH:
PAGE 03 RUENAAA0048 UNCLAS
A. DELETE:

A-4/TA-4	ESCAPAC IG-3	140-204

B. ADD:

TA-4F/J	ESCAPAC IG-3	136-213
F-5E/F	NORTHRUP IMPROVED ROCKET	132-201
T-38A	NORTHRUP IMPROVED ROCKET	132-201

C. LIST OF COMNAVAIRSYSCOM-CERTIFIED CREWMEMBER WEIGHTS FOR EJECTION SEATS SHOULD THEN READ AS FOLLOWS:

COMNAVAIRSYSCOM CERTIFIED CREWMEMBER WEIGHTS

AIRCRAFT	EJECTION SEAT(S)	NUDE WEIGHTS (LBS)
TA-4F/J	ESCAPAC IG-3	136-213
AV-8B	SJU-4	136-213

EA-6B	GRUEA-7	140-204
F-5E/F	NORTHRUP IMPROVED ROCKET	132-201
F-14A/B/D	GRU-7A/SJU-17	136-213
F/A-18A/B/C/D/E/F	SJU-5/6/17	136-213
S-3/ES-3	ESCAPAC IE-1	136-213
T-2C	LS-1A	140-204
T-38A	NORTHRUP IMPROVED ROCKET	132-201
T-45A/C	SJU-17	136-213

4. REQUEST WIDEST DISSEMINATION OF THIS MESSAGE.//

BT

PTAUZYUW RUENAAA7309 3221825-UUUU--RULSTGP.
ZNR UUUUU
RUCCNOQ T CG FOURTH MAW
RUHEHMS T COMMARFORPAC
P R 181802Z NOV 98 ZYB PSN 667716M33
FM CNO WASHINGTON DC//N889//
TO RUCOSSA/COMNAVAIRLANT NORFOLK VA//N00/N3/N45/N455//
RUEACMC/CMC WASHINGTON DC//AVN/SD//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N00/N3//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//00/1.0/5.0F//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N00/N3/N35//
RUCBLFB/COMMARFORLANT//N00/DSS//
RUHEHMS/COMMARFORPAC//N00/SAFETY//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//N00/N3/N11/N11A//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N00/N3//
RUCCNOQ/CG FOURTH MAW//DOSS//
INFO RHHMHAH/CINCPACFLT PEARL HARBOR HI//N31/N315//
RUCBCLF/CINCLANTFLT NORFOLK VA//N33/N331//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
RULSTGP/COMNAVWARDEVCOM DIV WASHINGTON DC//NATOPS//
BT
UNCLAS //N03710//
MSGID/GENADMIN/N889//
SUBJ/INTERIM CHANGE 24 TO OPNAVINST 3710.7R NATOPS GENERAL FLIGHT AND
PAGE 02 RUENAAA7309 UNCLAS
/OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAVINST 3710.7R/15JAN97//
NARR/REF A IS OPNAVINST 3710.7R NATOPS GENERAL FLIGHT AND OPERATING
INSTRUCTIONS//
RMKS/1. THIS IS INTERIM CHANGE NUMBER 24 TO REF A.
2. SUMMARY. ADDS PROCEDURES FOR WAIVER FOR AND/OR USE OF NON-U.S.
GOVERNMENT (NON-USG) INSTRUMENT APPROACH PROCEDURES FOR AIRCRAFT
FLYING PASSENGER AND/OR TROOP-CARRYING AIRCRAFT IN SUPPORT OF NON-
STANDARD OPERATIONS.
3. CHANGE CHAPTER 3, PAGE 3-15, AS FOLLOWS:
A. PARAGRAPH 3.11.1 GENERAL:
(1) DELETE: ALL
(2) ADD (INSERT):
3.11.1 GENERAL. EXCEPT WHEN THIS REQUIREMENT IS WAIVED FOR
A FLIGHT IN SUPPORT OF A NONSTANDARD OPERATION, AIRCREWS FLYING
PASSENGER AND/OR TROOP-CARRYING AIRCRAFT SHALL NOT FLY AN INSTRUMENT
APPROACH THAT HAS NOT BEEN VALIDATED AS SAFE AND ACCURATE BY A U.S.
GOVERNMENT AGENCY IN ACCORDANCE WITH (1) U.S. TERPS -- FAA ORDER
8260.3 (OPNAVINST 3722.16C (NOTAL)), (2) ICAO PROCEDURES FOR AIR
NAVIGATION SERVICES -- AIRCRAFT OPERATIONS (PANSOPS), OR (3) NATO
PAGE 03 RUENAAA7309 UNCLAS
CRITERION FOR THE PREPARATION OF INSTRUMENT APPROACH AND DEPARTURE
PROCEDURES (APATC-1). AN INSTRUMENT APPROACH THAT HAS BEEN
VALIDATED TO BE SAFE AND ACCURATE BY ANOTHER U.S. GOVERNMENT SERVICE
IN ACCORDANCE WITH THESE STANDARDS, CATEGORIZES THE PROCEDURE AS
A U.S. GOVERNMENT (USG) PROCEDURE AND CONSTITUTES AUTHORITY FOR USE
OF THE PROCEDURE BY THE OTHER SERVICES.
3.11.1.1 NONSTANDARD OPERATION. A NON-STANDARD OPERATION IS
DEFINED AS WHEN AN URGENT REQUIREMENT EXISTS TO FLY A SHORT-NOTICE

MISSION IN SUPPORT OF A HUMANITARIAN, CONTINGENCY, MEDEVAC, SPECIAL ACCESS, OR STATE DEPARTMENT REQUIREMENT. COMMANDERS (0-8 OR ABOVE) EXERCISING OPERATIONAL CONTROL (OPCON) OF AIRCRAFT FLYING IN SUPPORT OF NONSTANDARD OPERATIONS ARE RESPONSIBLE FOR MISSION RISK ASSESSMENT AND THEREFORE MAY WAIVE THE REQUIREMENT FOR A TERPS REVIEW OF A NON-USG INSTRUMENT PROCEDURE. IF AIRCRAFT AND AIRCREWS ARE CHOPPED TO A JOINT TASK FORCE (JTF) AND A WAIVER IS REQUIRED, THE JTF COMMANDER SHALL REQUEST THE WAIVER, AND, IF OPERATIONALLY FEASIBLE, THE COMMANDER ISSUING THE WAIVER SHALL CONSULT WITH THE APPROPRIATE SERVICE COMPONENT BEFORE GRANTING THE WAIVER. WHEN A WAIVER IS ISSUED, THE COMMANDER ISSUING THE WAIVER SHALL IMMEDIATELY NOTIFY THE NATIONAL MILITARY COMMAND CENTER'S ON-DUTY DEPUTY DIRECTOR FOR
PAGE 04 RUENAAA7309 UNCLAS
OPERATIONS (DDO), DSN 225-0098 OR COMM (703) 695-0098, OF THE EXTENT OF THE WAIVER AND PROVIDE, AT A MINIMUM, THE MISSION IDENTIFICATION, THE TIME AND DATE THE WAIVER WAS GRANTED, AND THE CIRCUMSTANCES THAT PRECIPITATED THE DECISION.

B. PARAGRAPH 3.11.4 CONFORMANCE TO TERPS. AFTER FIRST WORD OF FIRST SENTENCE (NAVFIG):

(1) DELETE: NA

(2) ADD (INSERT) "IS THE ONLY NAVAL AUTHORITY AUTHORIZED TO VALIDATE INSTRUMENT APPROACHES AND", SO SENTENCE BEGINS: NAVFIG IS THE ONLY NAVAL AUTHORITY AUTHORIZED TO VALIDATE INSTRUMENT APPROACHES AND SHALL EVALUATE ALL....

4. SPECIFIC QUESTIONS REGARDING THIS CHANGE SHOULD BE DIRECTED TO CNO(N885F) POC LTCOL STEPHEN HARRIS AT DSN 664-7707/COMM (703)604-7707 OR EMAIL HARRIS.STEPHEN@HQ.NAVY.MIL.

5. REQUEST WIDEST DISSEMINATION. //

BT

#7309

NNNN

RTD:000-000/COPIES:

PTAUZYUW RUENAAA7108 3102109-UUUU--RULSTGP.
ZNR UUUUU
P R 062033Z NOV 98 ZYB PSN 613492M25
FM CNO WASHINGTON DC//N889//
TO RUEACMC/CMC WASHINGTON DC//AVN/SD//
RUCOSSA/COMNAVAIRLANT NORFOLK VA//N00/N3/N45/N455//
RUWFEAA/COMNAVAIRPAC SAN DIEGO CA//N00/N3/N8//
RULSFAN/COMNAVAIRSYSCOM PATUXENT RIVER MD//N00/5.0F//
RUCCNOL/COMNAVAIRESFOR NEW ORLEANS LA//N00/N3/N35//
RUCBLFB/COMMARFORLANT//N00/DSS//
RUHEHMS/COMMARFORPAC//N00/SAFETY//
RUCOPAW/COMNAVSAFECEN NORFOLK VA//N00/10/11A/N3//
RUWHTXF/CNATRA CORPUS CHRISTI TX//N00/N3//
RUCCNOQ/CG FOURTH MAW//N00/DOSS//
RUWFADO/NAVSTKAIRWARCEN FALLON NV//00/N3/N5//
RHHMHBH/INFO/CINCPACFLT PEARL HARBOR HI//N31//
RUCBCLF/CINCLANTFLT NORFOLK VA//N31//
RUENMED/BUMED WASHINGTON DC//MED 23//
RUCCBWF/BUPERS MILLINGTON TN//PERS 43//
RUCTPOA/CNET PENSACOLA FL//N00//
RUCTPOH/NAVOPMEDINST PENSACOLA FL//06//
RULSTGP/COMNAVWARDEVCOM DIV WASHINGTON DC//00/NATOPS//
PAGE 02 RUENAAA7108 UNCLAS
BT
UNCLAS //N03711//
MSGID/GENADMIN/N889//
SUBJ/INTERIM CHANGE 23 TO OPNAVINST 3710.7 NATOPS GENERAL FLIGHT AND /OPERATING INSTRUCTIONS//
REF/A/DOC/OPNAVINST 3710.7R/15JAN97//
AMPN/REF A IS NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS//
POC/LEINGANG D.M./LCDR/N889J3/-/TEL:DSN 664-7766/TEL:COMM (703) 604-7766//
RMKS/1. THIS IS INTERIM CHANGE NUMBER 23 TO REF A (OPNAVINST 3710.7R).
2. SUMMARY. ADDS INFORMATION CONCERNING AIRCREW BODY WEIGHT AND RELATED RISKS FOR INJURY DURING EJECTION.
3. CHANGE REF A (OPNAVINST 3710.7R), CHAPTER 8, PAGE 8-10, PARAGRAPH 8.3.2 FACTORS AFFECTING PERSONNEL READINESS AND QUALIFICATIONS, AFTER PARAGRAPH 8.3.2.17 SIMULATOR SICKNESS, AS FOLLOWS:
A. DELETE: NA
B. ADD:
8.3.2.18 BODY WEIGHT FOR EJECTION SEAT AIRCRAFT. THE MINIMUM
PAGE 03 RUENAAA7108 UNCLAS
AND MAXIMUM NUDE BODY WEIGHTS ALLOWED FOR THOSE ON AVIATION DUTY ARE 100 POUNDS AND 235 POUNDS, RESPECTIVELY. HOWEVER, REGARDLESS THE ALLOWABLE BODY WEIGHT LIMITATIONS, ANY PERSON FLYING IN AN EJECTION SEAT AIRCRAFT WHOSE NUDE BODY WEIGHT IS BELOW OR ABOVE THE COMNAVAIRSYSCOM-CERTIFIED CREWMEMBER WEIGHTS FOR AN EJECTION SEAT IS AT INCREASED RISK OF INJURY FROM EJECTION.
COMNAVAIRSYSCOM-CERTIFIED CREWMEMBER WEIGHTS FOR EJECTION SEATS ARE AS FOLLOWS:

COMNAVAIRSYSCOM CERTIFIED CREWMEMBER WEIGHTS

AIRCRAFT	EJECTION SEAT(S)	NUDE WEIGHTS (LBS)

A-4/TA-4	ESCAPAC IG-3	140-204
AV-8B	SJU-4	136-213
EA-6B	GRUEA-7	140-204
F-14A/B/D	GRU-7A/SJU-17	136-213
F/A-18A/B/C/D/E/F	SJU-5/6/17	136-213
S-3/ES-3	ESCAPAC IE-1	136-213
T-2C	LS-1A	140-204
T-45A/C	SJU-17	136-213 //

BT

NATOPS General Flight and Operating Instructions

CONTENTS

LIST OF ILLUSTRATIONS

LIST OF FORMS AND REPORTS

FORMS

The following forms may be obtained through normal Navy supply channels in accordance with CD ROM NAVSUP P600 (NLL), except as noted otherwise.

Aviators Flight Log Book, OPNAV 3760/31 (4-65), S/N 0107-LF-736-2001

Clearance for Nonmilitary/Nonaircrew Personnel to Fly in USN/USMC Aircraft, OPNAV 3710/18 (3-95), S/N 0107-LF-019-4600

Clearance Notice (Aeromedical), NAVMED 6410/2 (5-90), S/N 0105-LF-010-1700

Flight Weather Briefing, DD-175-1 (9-89), S/N 0102-LF-008-4200

Grounding Notice (Aeromedical), NAVMED 6410/1 (5-90), S/N 0105-LF-010-1600

'ilitary Flight Plan, DD 175 (5-86) S/N 0102-LF-001-7500

NATOPS Tactical Change Recommendation, OPNAV 3710/6 (4-90), S/N 0107-LF-009-7900

NATOPS Evaluation Report, OPNAV 3710/7 (3-95), S/N 0107-LF-019-4500

NATOPS Flight Personnel Training and Qualification Jacket, OPNAV 3760/32 (4-81), S/N 0107-LF-736-2112

NATOPS Instrument Rating Request, OPNAV 3710/2 (1-74) S/N 0107-LF-728-2903

Naval Aircraft Flight Record, OPNAV 3710/4, (2-84), S/N 0107-LF-037-1020

Mission Qualification Record, OPNAV 3760/32D (Rev 4-90), S/N 0107-LF- 009-7500

School/Course Attendance Record, OPNAV 3760/32E (Rev 4-90), S/N 0107-LF -009-7600

Operational Physiology and Survival Training, OPNAV 3760/32F (Rev 4-90), S/N 0107-LF-009-7700

Examination Record, OPNAV 3760/32G (Rev 4-90), S/N 0107-LF-009-7800

Review and Certificate Record, OPNAV 3760/32A (Rev 4-81), S/N 0107-LF- 736-2120

Record of Flight Equipment Issue, OPNAV 3760/32B (Rev 4-81), S/N 0107-LF-736-2130

Flight Personnel Designation Required, OPNAV 3760/32C (Rev 4-81), S/N 0107-LF-736-2140

Mishap/Flight Violation Record, OPNAV 3760/32H (Rev 4-81), S/N 0107-LF-736-2190

Flight Jacket Divider Tabs, OPNAV 3760/32I (Rev 4-81), S/N 0107-LF-000-7500

Record of Disclosure - Privacy Act of 1974, OPNAV 5211/9 (Rev 3-92), S/N 0107-LF-013-8400

Aircraft Inspection and Acceptance Record, OPNAV 4790/141 (Rev 12-89), S/N 0107-LF-008-4600

Record of Completed Flight Time, OPNAV 3760/37 (Rev 9-74) S/N 0107-LF- 037-6185

Weight and Balance Clearance Form F, DD 365-4 (4-89), S/N 0102-LF-008-8700

Officers Qualification Record NAVMC 123A (Rev 9-95), S/N 0109-LF-062-8800

U.S. Embassy Service Book Cover NAVMC 118A (Rev 12-96), S/N 0109-LF-067-1200

Air Transportation Agreement, DD 1381 (7-62) — contact local NPPS office for local print-on-demand

FAA 7233-1 — procure at nearest FAA Flight Standards District Office

CNATRAGEN 3760/3A — Chief of Naval Air Training, NAS, Corpus Christi, TX 78419

Records Transmittal and Receipt, SF-135 (7-85), NSN 7540-00-634-4093 is stocked at Federal Supply Systems

Report of Medical Examination, SF 88 (10-94), S/N 7540-00-634-4038 is stocked at the General Services Administration.

REPORTS

The following reports are approved in accordance with SECNAVINST 5214.2B:

REPORT SYMBOL	TITLE	LOCATION
OPNAV 3710-19	Flight Time Deficiency Report	Page 11-1 para 11.5.2
OPNAV 3710-21	NATOPS Evaluation Report	Page A-14

GLOSSARY

The explanation or definitions of terms and abbreviations commonly used in the aviation community can be found in FAR, Part 1, and DOD FLIP General Planning, Chapter 2; and Aeronautical Information Manual (AIM) Pilot/Controller Glossary. No effort to duplicate these terms is intended. Where terms are used in this instruction with a different connotation or where definitions are lacking in the above-mentioned publications, the explanations of such terms are included.

Actual Instrument Approach. When actual instrument conditions are encountered below 1,000 feet above the airport/flight deck elevation during an instrument approach.

Actual Instrument Conditions. Conditions external to the aircraft in flight that do not permit visual reference to the horizon.

Aerobatic Flight. An intentional maneuver involving an abrupt change in aircraft attitude, intentionally performed spins, or other maneuvers requiring pitch/dive angles greater than 45°, bank angles greater than 60°, or accelerations greater than 2g's. A "break" maneuver that conforms to the model NATOPS manual is not considered to be aerobatic flight.

eronautically Designated Personnel. A collective term that applies to all naval aviators, naval flight officers, naval aerial observers (USMC), naval flight surgeons, naval aerospace physiologists, naval aerospace experimental psychologists, aviation air warfare systems operators (AW rating), personnel assigned by the Chief of Naval Personnel under a distribution Naval Enlisted Classification (NEC) of 82XX, and USMC-enlisted crewmembers. Enlisted noncrewmembers are not considered aeronautically designated.

Aircraft Class. A broad classification as to the general mission purpose of an aircraft design (e.g., attack, fighter, helicopter, patrol, transport, vertical takeoff and landing and unmanned aerial vehicles).

Aircraft Commander Time. The individual flight time during which an individual, designated as a qualified aircraft commander in the aircraft model being flown, is serving as pilot in command. Aircraft commander time is a measure of command experience rather than of pilot experience.

Aircraft Series. The specific version of aircraft within the same series (e.g., AV-8A or B; KC-130F, R, or T; CH-53A, D, or E; EA-6A or B).

Aircraft Type. The broadest classification of aircraft as to physical characteristics (i.e., fixed-wing, rotary-wing or tilt-rotor).

Aircrew. A collective term that applies to all categories of personnel in a flight status either as crew or noncrewmember. Aircrew are military personnel on competent flight orders or civilian personnel whose duties require frequent and regular participation in aerial flights to perform inflight functions such as installation, maintenance, evaluation of airborne technical equipment (maintenance skins), communication specialists, photo specialists, etc.

Bolter. An attempted arrested landing on a carrier in which some portion of the aircraft, such as the landing gear or hook, touches the deck but the arresting gear is not engaged and the aircraft continues in flight.

Computer Aided NAVFLIRS Data Entry. CANDE is a CNO/Commander, Naval Air Systems Command (COMNAVAIRSYSCOM)-authorized automated program designed to provide support to squadron personnel for accurate completion of the NAVFLIRS form (OPNAV 3710/4). It allows squadron personnel to input preflight and postflight data into the program that will generate a data diskette for processing at the local data service facility (DSF) and hard-copy facsimiles for the master flight file and the maintenance analyst.

Civilian Non-DOD Government Employee. Individual could be with other federal Government agency, state, county, or local government, etc., or an individual not with any government agency but whose activities benefit the general public at large. Firefighters and inflight medical services are examples.

Combatant Commander. A commander in chief of one of the unified or specified combatant commands established by the President.

Competent Authority. An official bearing the title of commanding officer or reporting senior higher in the chain of command.

Control (Radar)

a. Advisory — The tactical control of aircraft by a designated control unit in which the pilot receives directions and recommendations. Aircraft commanders are not relieved of responsibility for their own safety and navigation.

b. Close — The tactical control of aircraft by a designated control unit, whereby the pilot receives orders affecting aircraft movements. The pilot will not deviate from controller instructions unless given permission or unless unusual circumstances require immediate action for the safety of the flight. In either case, the pilot will inform the controller of the action taken. This type of control requires two-way radio communication and radar contact. The controller is responsible for the safe separation of the aircraft, and the pilot must be informed whenever the aircraft is not held on the radarscope for periods in excess of 1 minute or five sweeps of the radar and, as a result, is being dead reckoned. The ultimate safety of the aircraft is the responsibility of the pilot.

c. Positive — The tactical control of aircraft by a designated control unit, whereby the pilot receives orders affecting aircraft movements that transfer responsibility for the safe navigation of the aircraft to the unit issuing such orders. The ultimate safety of the aircraft is the responsibility of the pilot.

Controlling Custodian. The command exercising administrative control of assignment, employment, and logistic support of aircraft. Controlling custodians are identified in OPNAVINST 5442.2.

Cross-Country Flight. A flight that either does not remain in the local flying area or remains in the local flying area and terminates at a facility other than an active military facility.

Designations. A designation is a one-time occurrence and remains in effect until removed for cause. Commanders shall issue a designation letter to the individual upon the occasion of his/her original designation with appropriate copies for inclusion in his/her NATOPS qualification jacket.

DIFCREW. Duty for enlisted personnel in a flying status involving operational or training flights.

DIFDEN. Duty in a flying status for an officer not involving flying.

DIFOPS. Duty in a flying status for an officer involving operational or training flights.

DIFTEM (USN). Duty in a temporary flying status involving operational training or evaluation flights as an enlisted noncrewmember awaiting qualification (within 18 months).

Direct Station-to-Station Communications. A means of passing flight progress information between airfields. Communications should be established by one of the following methods:

a. Voice landline

b. Service B/Dial LABS flight information system.

Enlisted Crewmember (USMC). Enlisted personnel on competent orders to perform duty involving frequent and regular participation in aerial flight as a crewmember.

Enlisted Noncrewmember on Flight Orders (USMC). Enlisted personnel on competent orders to perform duty involving frequent and regular participation in aerial flight who are not performing duties related to the actual operation of the aircraft or associated equipment in the aircraft (i.e., maintenance personnel who perform inflight functions such as installation or troubleshooting of airborne technical equipment (maintenance skins) and VIP support, photo specialists, etc.).

Flight

a. For operational purposes, a flight is one or more aircraft proceeding on a common mission.

b. For recording and reporting purposes, a flight begins when the aircraft first moves forward on its takeoff run or takes off vertically from rest at any point of support and ends after airborne flight when the aircraft is on the surface and either:

(1) The engines are stopped or the aircraft has been on the surface for 5 minutes, whichever comes first.

(2) A change is made in the pilot in command.

c. For helicopters, a flight begins when the aircraft lifts from a rest point or commences ground taxi and ends after airborne flight when the rotors are

disengaged or the aircraft has been stationary for 5 minutes with rotors engaged.

Note

Flight time on repetitive evolutions such as field carrier landing practice (FCLP), passenger/cargo stops, and carrier qualifications shall be logged from the time the aircraft takes off until the aircraft has been on the surface for 5 minutes after each evolution flown (i.e., three sorties of 55 minutes actual air time interspersed with two 20-minute ground periods for refueling or passenger/cargo transfer will be logged as 3.0 hours of flight time).

Flight Clearance. A flight clearance provides temporary flight operating limits for an aviation system operating in a nonstandard configuration or to a nonstandard envelope, pending issuance of the technical directive or change to the NATOPS or tactical manuals. A flight clearance is a temporary airworthiness approval from COMNAVAIRSYSCOM.

Flight Crew. Personnel whose presence is required on board a manned aircraft or at a control station for UAVs to perform crew functions in support of the assigned mission (e.g., pilot, copilot, navigator, flight engineer, internal pilot, crew chief, air observer, special crew, trainee, etc.).

Flight Time. The elapsed time computed in accordance with the definition of flight. Flight time is logged in hours and tenths of hours and is creditable to the aircraft, personnel aboard, and equipment.

Formation Flight. A flight of more than one aircraft operating by prior arrangement as a single aircraft with regard to altitude, navigation, and position reporting, and where separation between aircraft within the flight rests with the pilots in that flight.

Hazard. A condition with the potential to cause personal injury or death, property damage, or mission degradation.

Individual Flight Time. The total pilot time and special crew time creditable to an individual.

Instructor. A naval aviator, naval flight officer, or naval aircrewman designated in writing by competent authority as a flight instructor, NATOPS evaluator, or NATOPS instructor in the aircraft model being flown.

Instructor Time. Individual flight time during which an instructor is required to instruct or evaluate other aeronautically designated personnel or students undergoing a formal flight syllabus.

Instrument Meteorological Conditions. Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling less than the minimums specified for visual meteorological conditions. IMC conditions exist anytime a visible horizon is not distinguishable.

Instrument Time. The portion of pilot time in either day or night under actual or simulated instrument conditions.

a. Actual instrument time will be logged by both pilots in a dual/multipiloted aircraft during flight in actual instrument conditions.

b. Simulated instrument time shall be logged only by the pilot actually manipulating the controls.

Note

NFOs and student NFOs may report actual instrument time if they fly in an aircraft in which they can monitor the pilot instruments and recommend information to the pilot during actual instrument conditions.

Joint Service Battlestaff Personnel Embarked on Naval Aircraft. Personnel of services other than USN serving as battlestaff crewmembers on board Navy E-6 aircraft conducting airborne strategic communications.

Landing. A return to the surface; landings include touch and go (providing the landing gear touches the surface), bolter, forced, or crash.

Note

Terms of control terminology such as immediately, possible, and practicable refer to the degree of urgency intended in the message:

a. Land immediately — Self-explanatory.

b. Land as soon as possible — Land at the first site at which a safe landing can be made.

c. Land as soon as practicable — Extended flight is not recommended. The landing site and duration of flight is at the discretion of the pilot in command.

Local Flight. A flight that remains within the local flying area and terminates at either the same facility

or another military facility with which the originating station has direct station-to-station communications.

Local Flying Area. That area in the vicinity of an air installation in which locally-based aircraft can operate during an average/ typical sortie's flight time. The local flying area shall not exceed 350 miles from an air installation and be designated as such in the Air Operations Manual by the Commanding Officer. Insofar as practicable, local flying areas shall be bounded by prominent terrain features and/or air navigation aid radials/distances.

Mile. All distances referred to in this instruction are nautical miles unless otherwise specified.

Mission Commander Time. Flight time during which an individual, designated as a qualified mission commander in the aircraft model being flown, is serving as the mission commander. Mission commander time is a measure of command experience rather than flight experience.

Multipiloted Aircraft. Any aircraft having two sets of flight controls and instruments and operated by two pilots, both of whom meet the requirements of the NATOPS manual for that model aircraft.

Naval Aircrewman. A designation for enlisted personnel who have met the requirements for qualification and have been so certified in accordance with paragraph 12.7 of this instruction.

Naval Aviation Shore Facility. A facility at which an active airfield exists and is either owned, operated, or controlled by the Navy or Marine Corps.

Navy Tactical Information Compendium. A product of Navy Tactical Support Activity that provides the fleet with naval doctrine, lessons learned, and tactical documents on Compact Disc-Read Only Memory (CD-ROM) using state-of-the-art information retrieval technology.

Night Time. The portion of pilot time during darkness (i.e., between the official time of sunset and sunrise (on the surface below the aircraft in flight), regardless of whether visual or instrument conditions exist).

Officer in Tactical Command. The senior officer present eligible to assume command, or the officer to whom he/she has delegated tactical command.

Official Business. The necessity to contact personnel, units, or organizations for the purpose of conducting transactions in the service of and in the interest of the United States Government. This definition does not authorize the use of "official business only" airfields, their services, or other items attendant to itinerant operations when making en route stops while proceeding to an airfield at which official business is to be conducted. "Official business only" restrictions do not preclude the use of the facility as an alternate during instrument flight rule (IFR) conditions.

Operational Flying. (See paragraph 11.2 for definition and application.)

Operational Necessity. A mission associated with war or peacetime operations in which the consequences of an action justify accepting the risk of loss of aircraft and crew.

Operational Risk Management. The process of dealing with the risk associated with military operations, which include risk assessment, risk decision making, and implementation of effective risk controls.

Orientation Flight. A continuous-flight in DOD aircraft performed within the local flying area and terminating at the point of origin intended to further the understanding of particular programs concerning the roles and missions of the DOD.

Passenger. An individual who is not part of the aircrew traveling in an aircraft designed or normally configured for passenger (nonaircrew) carrying capability on a point-to-point flight.

Pathfinder. An aircraft whose primary mission is to assist tactical aircraft with communication or navigation of flights over regions where normal tactical aircraft navigation/communication equipment is unusable.

Pilot in Command. The pilot assigned responsibility for safe and orderly conduct of the flight.

Pilot Time. The flight time credited to a designated aviator, student naval aviator, student/designated naval flight surgeon, student/designated aerospace physiologist, or student/designated aerospace experimental psychologist assigned to duty involving flying. Pilot time includes all time credited as first pilot and copilot. Pilot time is intended to be a record of active participation in the control of an aircraft. Pilot time will be credited to the individual actually earning it regardless of rank, billet, age, or level of experience.

First Pilot Time. The portion of pilot time during which an individual is positioned with access to the flight controls and is exercising principal active control of the aircraft.

Copilot Time . The portion of pilot time while assisting the pilot exercising principal active control of a multipiloted aircraft during which the copilot is positioned with access to and is immediately ready to operate the flight controls; or, in those aircraft with only one set of flight controls, that portion of flight time while instructing the pilot who is exercising principal active control when the designated instructor is positioned so that pilot and aircraft instruments can be observed. Aeronautically designated personnel may log CPT while performing copilot duties as required by the aircraft mission.

Pilot Under Instruction. A designated aviator under instruction.

Project Specialist. An individual embarked in a government aircraft not equipped with ejection seats and/or personal oxygen systems (excluding emergency oxygen systems) for the purpose of operating aircraft systems, operating specially designed equipment, or observing aircraft or crew performance when required in connection with assigned duties or contractual responsibilities. Project specialists are not responsible for normal aircrew duties.

Qualified in Model. A designation that indicates the minimum requirements for qualification in a specific crew position, as set forth in the appropriate NATOPS manual, have been attained. Such designations are a one-time occurrence (per unit/command tour) and remain in effect until removed for cause. Annual NATOPS evaluations should not be confused with or combined with these designations. If specific aircraft model NATOPS guidance is lacking, an individual shall be considered "qualified in model" for specific crew position when so designated by the reporting custodian.

Reporting Custodian. An organizational unit of the lowest echelon of command accepting responsibility (involving accountability to CNO) for aircraft as designated either by CNO or by the controlling custodian of the aircraft.

Risk. An expression of possible loss in terms of severity and probability.

Risk Assessment. The process of detecting hazards and assessing associated risks.

Selected Passengers. An individual embarked in a government aircraft equipped with ejection seats and/or personal oxygen systems (excluding emergency oxygen systems). Selected passengers are not responsible for normal aircrew duties.

Simulated Instrument Approach. An instrument approach flown under simulated instrument conditions.

Simulated Instrument Conditions. Conditions external to the aircraft in flight are visual meteorological conditions (VMC), but pilot vision is limited primarily to the interior of the aircraft.

Single-Piloted Aircraft. Any aircraft that has only one set of flight controls or any aircraft that has two sets of flight controls and instruments and is being operated by only one pilot who meets the requirements of the NATOPS manual for that model aircraft.

Special Crew Time . The portion of flight time accrued while not acting as first pilot or copilot, but otherwise serving as a member of the authorized crew complement of an aircraft or as a student in flight training.

Special Operations Personnel. Personnel that are required to conduct special operations such as high-altitude parachuting from military aircraft (SEALS, ANGLICO, RECON, physiology safety observers, etc.).

Stereo Route. Routinely used route of flight established by users and ARTCC identified by a coded name. These routes simplify flight plan handling and communications.

Student Naval Aviator (Student Pilot). An individual undergoing training who is not designated as a naval aviator.

Tilt-rotor. Aircraft type capable of rotor-borne and wing-borne flight (e.g., MV-22).

Trip. A consecutive series of flights by the same aircraft with the same general purpose of flight (with regard to the aircraft only), pilot in command, and transaction code (i.e., ship operations or shore operations) from point of original departure to destination.

Unmanned Aerial Vehicle. A remotely piloted aircraft designed for purposes other than as a target (e.g., reconnaissance, surveillance, gunfire support, etc.). UAVs are flown by referencing instruments or visually.

Very Important Persons. VIPs are defined as flag officers, DOD officials equal to or senior to flag officers, high-profile public figures, elected members of Congress, etc.

Visual Meteorological Conditions. Meteorological conditions expressed in terms of visibility, cloud distance, and ceiling that are equal to or better than specified minimums. Basic weather conditions prescribed for flight under visual flight rules (VFR). (Refer to Chapter 5.)

LIST OF ABBREVIATIONS/ACRONYMS

A

ABI. Aviation billet indicator.

ACFT CMDR. Aircraft commander.

ACIP. Aviation career incentive pay.

ACM. Air combat maneuvers.

ACP. Allied communication publication.

ACT. Aircraft commander time; aircrew coordination training.

ADIZ. Air defense identification zone.

ADMAT. Administrative material inspection.

AEW. Airborne early warning.

AFCS. Automatic flight control system.

AG. Miscellaneous ship.

AI. Air intelligence; Air intercept.

AGL. Above ground level.

AIA. Aircraft inspection and acceptance.

AIM. Aeronautical Information Manual.

ALS. Approach lighting system.

ALSS. Aviation life support system.

ALTRV. Altitude reservation.

AMCM. Airborne mine countermeasures.

AME. Aviation medical examiner.

AMO. Aviation medical officer.

AMSO. Aeromedical safety officer.

AOA. Angle of attack.

AOR. Area of responsibility.

AP. Area planning.

ARCP. Air refueling control point(s).

ARTCC. Air route traffic control center.

ASAC. Antisubmarine air controller.

ASED. Aviation service entry date.

ASEP. Aircrew survivability enhancement program.

ASI. Aviation status indicator.

ASW. Antisubmarine warfare.

ATC. Air traffic control.

ATCAA. Air traffic control assigned airspace.

ATCF. Air Traffic Control Facility.

ATP. Allied tactical publication.

AVOPS. Aviation Operations Officer.

B

BRAC. Base realignment and closure.

BUMED. Bureau of Medicine and Surgery.

BuNo. Bureau number.

BUPERS. Bureau of Naval Personnel.

BVA. Best visual acuity.

C

CAD. Collective address designator.

CAG. Carrier air group.

CANDE. Computer-aided NAVFLIRS data entry.

CAP. Combat air patrol.

CASREP. Casualty report.

CBR. Chemical, biological, and radiological.

CCA. Carrier-controlled approach.

CG FOURTH MAW. Commanding General, 4th Marine Air Wing.

CIC. Combat information center.

CINC. Commander-in-Chief.

CINCUSNAVEUR. Command-in-Chief, U.S. Naval Forces Europe.

CMC. Commandant of the Marine Corps.

CNATRA. Chief of Naval Air Training.

CNET. Chief of Naval Education and Training.

CNI. Communication, navigation, identification.

CNO. Chief of Naval Operations.

CO. Commanding officer.

COD. Carrier on-board delivery.

COMFAIR. Commander, Fleet Air.

COMMARFORLANT. Commander, U.S. Marine Forces, Atlantic.

COMMARFORPAC. Commander, U.S. Marine Forces, Pacific.

COMNAVAIRESFOR. Commander, Naval Air Reserve Force.

COMNAVAIRLANT. Commander, Naval Air Force, U.S. Atlantic Fleet.

COMNAVAIRPAC. Commander, Naval Air Force, U.S. Pacific Fleet.

COMNAVAIRSYSCOM. Commander, Naval Air Systems Command.

COMNAVAIRWARCENACDIV. Commander, Naval Air Warfare Center, Aircraft Division.

COMNAVRESFOR. Commander, Naval Air Reserve Force.

COMNAVSAFECEN. Commander, Naval Safety Center.

COMSEVENTHFLT. Commander Seventh Fleet.

COMSIXTHFLT. Commander Sixth Fleet.

CONUS. Continental United States.

CORTRAMID. Coordinated training of midshipmen.

CPT. Copilot time.

CTF. Commander Task Force.

CVW. Carrier air wing.

D

DCF. Document control form.

DCMC. Defense Contract Management Command.

DEWIZ. Defense early warning identification zone.

DH. Decision height.

DIFCREW. Duty involving flying, crewman.

DIFDEN. Duty in a flying status not involving flying.

DIFOPS. Duty in a flying status involving operational or training flights.

DIFTECH. Duty involved flying as a technical observer.

DIFTEM. Personnel under training to become crewmembers.

DMA. Defense Mapping Agency.

DME. Distances measuring equipment.

DNEC. Distributive naval enlisted classification.

DOD. Department of Defense.

DPRO. Digital projection readout.

DSF. Data service facility.

DSN. Defense switched network.

DUAT. Direct user access terminal.

E

ECM. Electronic countermeasures.

EP. External pilot (UAV).

ETA. Estimated time of arrival.

ETD. Estimated time of departure.

ETE. Estimated time en route.

F

F/W. Fixed wing.

FAA. Federal Aviation Administration.

FACSFAC. Fleet area control and surveillance facility.

FAILSAFE. Fleet air introduction/liaison of survival aircrew flight equipment.

FAR. Federal Aviation Regulation.

FCF. Functional checkflight.

FCLP. Field carrier landing practice.

FDLP. Field deck landing practice.

FFPB. Field Flight Performance Board.

FL. Flight level.

FLIP. Flight information publication.

FLIR. Forward looking infrared.

FLP. Field landing pattern.

FMF. Fleet Marine Force.

FMS. Foreign military sales.

FNAEB. Field Naval Aviator Evaluation Board.

FOD. Foreign object damage.

FPC. Flight purpose code.

FPT. First pilot time.

FRS. Fleet readiness squadron.

FS. Flight surgeon.

FSS. Flight service station.

FSSB. Flight Status Selection Board.

FXP. Fleet exercise publication.

FYTD. Fiscal year to date.

G

GCI. Ground-controlled intercept.

GLOC. G-loss of consciousness.

GMT. Greenwich mean time.

GPC. General purpose code.

GPS. Global positioning system.

H

HAP. High-altitude parachute.

HAT. Height above touchdown.

HDIP. Hazardous duty incentive pay.

HEED. Helicopter emergency egress device.

HF. High frequency.

HOI. Handbook of overhaul instructions.

HWD. Horizontal weather depiction.

I

ICAO. International Civil Aviation Organization.

ICS. Intercommunication system.

IFARS. Individual flight activity reporting system.

IFF. Identification friend or foe.

IFR. Instrument flight rules.

ILS. Instrument landing system.

IMC. Instrument meteorological conditions.

IMR. Individual master roster.

IP. Internal pilot (UAV).

IR. Infrared.

IRS. Intelligence report; Independent research.

IT. Instructor time.

J

JAGMAN. Manual for Judge Advocate General.

JANAP. Joint Army, Navy, Air Force publication.

JQR. Job qualification requirements.

K

KIAS. Knots indicated airspeed.

L

LABS. Leased Service A/B Systems.

LANT/PAC/MED/TRAMID. Atlantic/Pacific/Mediterranean/Naval reserve officers training corps midshipmen.

LEO. Law enforcement official.

LEP. Laser eye protection.

LIMDU. Limited duty.

LOA. Letter of agreement.

LOG. Log video.

LOS. Line of sight; Launch on search.

LPC. Low pressure chamber.

LPU. Life preserver unit.

LSO. Landing signal officer.

M

MAG. Marine aircraft group.

MAP. Military assistance program.

MARSA. Military assumes responsibility for separation of aircraft.

MAW. Marine Air Wing.

MCAS. Marine Corps Air Station.

MCO. Marine Corps Order.

MCT. Mission commander time.

MDA. Minimum descent altitude.

MDS. Maintenance data system.

MEDEVAC. Medical emergency evacuation.

MIFAR. Monthly individual flight activity report.

MIM. Maintenance instruction manual.

MITO. Minimum interval takeoff.

MOA. Military operating areas.

MOF. Month(s) operational flying.

MOS. Military occupational specialist.

MRU. Military radar unit.

MSL. Mean sea level.

MSN. Mission.

MSN CDR. Mission Commander.

MTR. Military training route.

MWA. Military weather advisory.

N

NA. Naval aviators.

NAC. Naval aircrewman.

NALCOMIS. Naval Aviation Logistics Command Management Information Systems.

NALIS. Navy logistics information system.

NAMT. Naval air maintenance trainer.

NAPTP. Naval aviation physiology training program.

NAS. Naval air station.

NASA. National Aeronautics and Space Administration.

NATO. North Atlantic Treaty Organization.

NATOPS. Naval air training and operating procedures standardization.

NATRACOM. Naval Air Training Command.

NATSF. Naval Air Technical Services Facility.

NAVAEROPMEDINST. Naval Aerospace Operational Medical Institute.

NAVAID. Navigation aid.

NAVAIRTECHSERVFAC. Naval Air Technical Services Facility.

NAVAVNDEPOTs. Naval aviation depots.

NAVAVSCOLSCOM. Naval Aviation Schools Command.

NAVFIG. Naval Flight Information Group.

NAVOPMEDINST. Naval Operations Medicine Institute.

NAVREP. Navy representative.

NAVTACSUPPACT. Navy Tactical Support Activity. (NTSA)

NAWS. Naval aviation water survival.

NAWSTP. Naval aviation water survival training program.

NCOIC. Noncommissioned officer in charge.

NCR. No carbon required.

NEC. Naval enlisted classification.

NFM. NATOPS flight manual.

NFO. Naval flight officer.

NITE. Night imaging and threat evaluation.

NJROTC. Naval Reserve Junior Officer Training Corps.

nm. Nautical mile.

NMCS. Not mission capable-supply.

NMCM. Not mission capable-maintenance.

NMOC. Naval Meteorology and Oceanography Command.

NOE. Nap of the Earth.

NOS. National Oceanographic Service.

NOTAM(s). Notice(s) to airmen.

NPQ. Not physically qualified.

NROTC. Naval reserve officer training corps.

NTIC. Navy Tactical Information Compendium.

NTSA. Navy Tactical Support Activity (NAVTACSUPPACT).

NVD. Night vision device.

NWP. Naval warfare publication.

O

OAT. Outside air temperature.

ODCR. Officer data control report.

OFT. Operational flight trainer.

OIC. Officer in charge.

OMA. Operational Maintenance Activity.

OOCF. Out-of-control flight.

OPAREA. Operating area.

ORE. Operational readiness evaluation.

ORG. Originator.

ORI. Operational readiness inspection.

ORM. Operational risk management.

OT&E. Operational test and evaluation.

P

PALS. Precision approach and landing system.

PAR. Pulsed acquisition radar.

PCS. Permanent change of station.

PEP. Personnel exchange program.

PIC. Pilot in command.

PO. Payload operator (UAV).

POC. Point of contact.

PQM. Pilot qualified in model.

PQS. Personnel qualification standard.

PR. Parachute rigger.

PROTRAMID. Professional training of midshipmen.

Q

QAC. Quick attachable chest.

R

RAC. Replacement aircrew.

RDD. Required delivery date.

RDO. Runway Duty Officer.

RDT&E. Research, development, test, and evaluation.

ROTC. Reserve Officer Training Corps.

RSSMM. Rescue swimmer school model manager.

RSSTP. Rescue swimmer school training program.

RTO. Range training officer.

RUC. Reporting unit code.

RVR. Runway visual range.

S

SAD. Senior air director.

SAR. Search and rescue.

SARMM. Search and rescue model manager.

SCATANA. Security control of air traffic and air navigation aids.

SCT. Special crew time.

SELRES/SMCR. Selected reserve.

SERE. Survival, evasion, resistance to interrogation, and escape.

SFA. Single frequency approach.

SID. Standard instrument departure.

SIF. Selective identification feature.

SOP. Standard operating procedure.

SPC. Specific purpose code.

STANAG. Standardization agreement.

STOL. Short takeoff and landing.

SUA. Special use airspace.

T

T&R. Training and readiness.

TACTS. Tactical aircrew combat training system.

TAD. Temporary additional duty.

TAR/FTS. Tactical air request.

TBA. To be assigned.

TDIP. Technical data indoctrination package.

TERPS. Terminal instrument procedures.

TMR. Total mission requirements.

T/M/S. Type/model/series.

TO. Table of organization.

TRAMID. Training for U.S. Naval Academy/Naval reserve officers training corps midshipmen.

TR. Training rules.

TYCOM. Type commander.

U

UAV. Unmanned aerial vehicle.

UCR. Urgent change recommendation.

UHF. Ultrahigh frequency.

UIC. Unit identification code.

UT. Underway trial.

V

VFR. Visual flight rules.

VHF. Very high frequency.

VIP. Very important person.

VMC. Visual meteorological conditions.

VOD. Vertical on-board delivery.

VOR. Visual omnirange.

VR. Visual reconnaissance.

V/STOL. Vertical/short takeoff and landing.

VTOL. Vertical takeoff and landing.

W

WST. Weapon system trainer.

WW. Weather watch.

CHAPTER 1

Introduction

1.1 GENERAL

The Naval Air Training and Operating Procedures Standardization (NATOPS) program is a positive approach towards improving combat readiness and achieving a substantial reduction in aircraft mishaps. This instruction issues policy and procedural guidance of the Chief of Naval Operations (CNO) that is applicable to all NATOPS users.

Use of ORM in the planning and execution of all military training is mandated by DODINST 6055.1. OPNAVINST 3500.39 further directs all Navy and Marine Corps acitvities to apply ORM in planning operations and training to optimize operational capabilities and readiness.

1.1.1 Purpose and Scope

a. This instruction prescribes general flight and operating instructions and procedures applicable to the operation of all naval aircraft and related activities. This instruction is not intended to cover every contingency that may arise nor every rule of safety and good practice. To achieve maximum value, the contents of all directives cited must be studied and understood. Routine interpretation and procedural questions should be referred to type wing/type command NATOPS offices for resolution prior to referral to CNO. Where the need arises, special instructions or waivers will be issued by CNO.

b. In the tactical environment, military exigency may require on-site deviations from instructions/procedures contained here. The existing risk of deviation must continually be weighed against the benefit of deviating from this instruction. Deviation from specified flight and operating instructions is authorized in emergency situations when, in the judgment of the pilot in command, safety justifies such a deviation.

c. It is often not feasible to completely specify all situations or circumstances under which provisions of this instruction shall apply; therefore, wording such as "normally," "etc.," "usually," and "such as" is employed. Words or clauses of that type shall not be used as loopholes nor shall they be expanded to include a maneuver, situation, or circumstance that should not be performed or encountered by the aircraft in question.

d. To increase combat readiness and improve flight safety, the scope and operation of the NATOPS program, conduct of NATOPS evaluations, urgent and routine change procedures to NATOPS publications, and NATOPS review conference procedures are discussed in Chapter 2.

1.1.2 Change Procedures. Recommended changes to this and other NATOPS publications may be submitted by anyone in accordance with Chapter 2 of this instruction. Recommended changes to this instruction shall be submitted to CNO (N889J), 2000 Navy Pentagon, Washington, DC 20350-2000.

1.1.3 Change Symbols. Revised text is indicated by a black vertical line in either margin of the page, adjacent to the affected text, like the one printed next to this paragraph. The change symbol identifies the addition of new information, a changed procedure, the correction of an error, or a rephrasing of the previous material.

1.1.4 Waiver Requests. Figure 1-1 delineates areas of responsibility within CNO (N88) for this instruction. Waiver requests should be sent to the applicable N code.

1.1.5 How To Get Copies

a. Automatic Distribution — To automatically receive future changes and revisions to this instruction, a unit must be established on the automatic distribution list maintained by CNO. To become established on the list or to change distribution requirements, notify in writing CNO (N889J), 2000 Navy Pentagon, Washington, DC 20350-2000.

ORGANIZATION	CHAPTER
N889J	1, 2, 3, 8, 11, 12, 13, and Appendixes A, C, and E
N885F	4, 5, 6, and 9
N889E	7, 10, and Appendixes B, D, F, G, H, I, J, and K

Figure 1-1. CNO Areas of Responsibility

b. Additional Copies — If 10 or fewer replacement copies of this instruction are required with no attendant change in the automatic distribution list, submit an electronic DD 1348 requisition in accordance with NAVSUP P2002 and NAVSUP PUB 437 or NAVSUP PUB 485. If more than 10 additional copies are ordered or if a concurrent change to the automatic distribution list is desired, submit requests via CNO (N889J).

1.2 OTHER GOVERNING SOURCES OF INFORMATION

Instructions and procedures contained here are not intended to replace or duplicate the following governing sources.

1.2.1 NATOPS Manuals. Those manuals that are issued for specific aircraft or aviation-related activities by CNO; they contain standard flight doctrine and the optimum operating procedures for the aircraft model or aviation activity concerned. Where a NATOPS manual is not issued for a particular model aircraft, appropriate commands shall issue doctrine and procedures locally. Where a specific NATOPS manual indicates a deviation from this instruction, the specific NATOPS manual constitutes CNO authority to deviate from this instruction. Individual aircraft NATOPS requirements should be at least as stringent as those set forth here. If as a result of a NATOPS conference, it is desired to establish a less stringent requirement, prior approval shall be obtained from CNO. Such approval may be requested by submitting an action copy of the conference record to CNO (N889J) with the item listed as a change requiring further approval in accordance with Chapter 2. When more stringent requirements are issued in this instruction, this instruction shall govern until specific authority to deviate has been granted by CNO.

1.2.2 Local Flying Rules and Instructions. Local flying rules and instructions will be found in regulations issued by the various fleets, forces, naval air station and other activities where naval aircraft are based c operated. Navy and Marine Corps air stations and other naval aviation shore facilities that routinely conduct flight operations shall supplement this instruction with air operations manuals. Guidelines for the preparation of air operations manuals are contained in NAVAIR 00-80T-114 (ATC NATOPS).

1.2.3 Federal Aviation Regulations (FAR). Naval aircraft shall be operated in accordance with applicable provisions of FAR, Part 91, except:

a. Where this instruction prescribes more stringent requirements.

b. Where exemptions or authorizations issued to the Department of the Navy/DOD permit deviation from FAR. Exemptions/authorizations currently on file that allow deviation from FAR, Part 91.

(1) Section 91.117 (Aircraft Speed). Operation of naval aircraft at speeds in excess of limits imposed by section 91.117 shall be governed by paragraph 5.1.4 of this instruction.

(2) Section 91.121 (Altimeter Settings). Allow the use of the local altimeter setting when conducting high speed tactical maneuvers that include rapid transits of Flight Level 180. (Exemption 2861A)

(3) Section 91.135 (Operations in Class A Airspace). Authorizes USN undergraduate student aviators to conduct solo flight in Class A airspace without an instrument rating.

(4) Section 91.159 (a) (VFR Cruising Altitude or Flight Level). Allows operations at altitudes other than those prescribed by section 91.159 (a) while engaged in drug interdiction operations, provided the aircraft has a dedicated on-board observer (other than the pilot) to watch for other air traffic, and the aircraft has an operating transponder with Mode C. (Exemption 5100C)

(5) Section 91.169 (b) and (c) (Alternate Airport Requirements). Alternate airport requirements and alternate airport weather criteria for clearance of flights to be conducted under IFR

shall be specified in paragraph 4.6.4 of this instruction. (Exemption 30B)

(6) Section 91.179 (b) (1) (IFR Cruising Altitude or Flight Level). Exemption from the altitudes to be maintained in uncontrolled airspace has been granted to the extent necessary to conduct military training route (MTR) training. Policies and procedures for the conduct of MTRs is contained in OPNAVINST 3722.33 (FAA Order 7610.4, Special Military Operations) and FLIP Area Planning AP/1B. (Exemption 2396)

(7) Section 91.209 (a) and (b) (Aircraft Lights). An exemption to this section has been granted for two purposes: The U.S. Marine Corps has been granted an exemption from 91.209 (a) and (b) to conduct helicopter night flight military training operations without lighted position lights (requirements of this exemption are contained in FAA Exemption 5978). An exemption has been granted to section 91.209 (a) to DOD aircraft engaged in drug interdiction flights. (Exemption 5978, night vision flights/Exemption 5100C, drug interdiction flights)

1.2.4 DOD Flight Information Publications (FLIPs) (NOTAL) and Notices to Airmen (NOTAMs) (NOTAL). The procedures, special notices, and instructions contained in the FLIPs and NOTAMs are mandatory for all pilots flying naval aircraft.

1.2.5 FAA Order 7110.65 (Air Traffic Control (NOTAL)). The FAA order is applicable to air traffic control by DOD activities unless individual military service exceptions are noted therein. The applicable procedures shall be used by naval aviation shore facilities when performing air traffic control (ATC) functions. Waivers for deviations from the procedures set forth in 7110.65 may be granted by CNO (N885F). Authority for reduced runway separation for arriving and departing aircraft using the same runway is outlined in paragraph 6.3.1.

1.2.6 NATOPS Air Traffic Control Facilities Manual (NAVAIR 00-80T-114). This manual is applicable to the operation of Navy and Marine Corps air traffic control facilities. Applicable procedures shall be used by shore facilities when performing ATC functions.

1.2.7 Other Instructions. Special instructions are listed in Appendix C.

1.3 EXPLANATION OF TERMS

The explanation or definitions of terms and abbreviations commonly used in the aviation community can be found in FAR, Part I, and DOD FLIP General Planning, Chapter 2; and Aeronautical Information Manual (AIM) Pilot/Controller Glossary. No effort to duplicate these terms is intended. Where terms are used in this instruction with a different connotation or where definitions are lacking in the above-mentioned publications, the explanations of such terms are included in the Glossary.

1.4 WARNINGS, CAUTIONS, AND NOTES

The following definitions apply to "WARNINGs," "CAUTIONs," and "Notes" found throughout this instruction.

WARNING

Explanatory information about an operating procedure, practice, or condition, etc., that may result in injury or death if not carefully observed or followed.

CAUTION

Explanatory information about an operating procedure, practice, or condition, etc., that may result in damage to equipment if not carefully observed or followed.

Note

Explanatory information about an operating procedure, practice, or condition, etc., that must be emphasized.

1.5 WORDING

The concept of word usage and intended meaning that has been adhered to in preparing this instruction is as follows:

a. "Shall" means procedure is mandatory.

b. "Should" means procedure is recommended.

c. "May" and "need not" mean procedure is optional.

d. "Will" indicates futurity and never indicates any degree of requirement for application of a procedure.

CHAPTER 2

Naval Air Training and Operating Procedures Standardization Program

2.1 PURPOSE

To define the NATOPS program organization, assign responsibilities, and specify procedures.

2.2 NATOPS PROGRAM ORGANIZATION

The NATOPS program organization shall be in accordance with this chapter. (See Figure 2-1.)

2.2.1 NATOPS Program Duty Assignments

a. NATOPS Program Administrator — The Director, Air Warfare Division (N88) has overall cognizance for the NATOPS program. The Head, Aviation Manpower and Training Branch (N889) has been delegated responsibility for the program's administration and management.

b. NATOPS Advisory Group — The NATOPS advisory group is composed of the following (and other commands as designated by CNO):

Chief of Naval Operations (CNO)

Commandant of the Marine Corps (CMC)

Commander, Naval Air Systems Command (COMNAVAIRSYSCOM)

Commander, Naval Air Force, U.S Pacific Fleet (COMNAVAIRPAC)

Commander, Naval Air Force, U.S. Atlantic Fleet (COMNAVAIRLANT)

Chief of Naval Air Training (CNATRA)

Commander, U.S. Marine Forces Atlantic (COMMARFORLANT)

Commander, U.S. Marine Forces Pacific (COMMARFORPAC)

Commander, Naval Air Reserve Force (COMNAVAIRESFOR)

Commanding General, Fourth Marine Aircraft Wing (CG FOURTH MAW)

Commander, Naval Safety Center (COMNAVSAFECEN)

c. CNO NATOPS Coordinators — Naval pilots/naval flight officers (NFOs), permanently assigned to the Navy Tactical Support Activity (NAVTACSUPPACT) WNY, Washington DC, who represent CNO at all NATOPS review conferences. They manage all aspects of the production of NATOPS publications for CNO (N889J).

d. NATOPS Coordinator — A pilot/NFO possessing broad experience in current operational aircraft, assigned NATOPS program coordination duties at the headquarters of advisory group members.

e. Cognizant Command — An advisory group member responsible for specific portions of the NATOPS program as designated by CNO (N889J). Cognizant command assignments are delineated in the NATOPS and Air TACMAN combined status report issued on the Navy Tactical Information Compendium (NTIC).

f. NATOPS Model Manager — The unit commander or head of department designated by the cognizant command to administer the NATOPS program for a specific aircraft model or aircraft-related system. These assignments are delineated in the NATOPS and Air TACMAN combined status report.

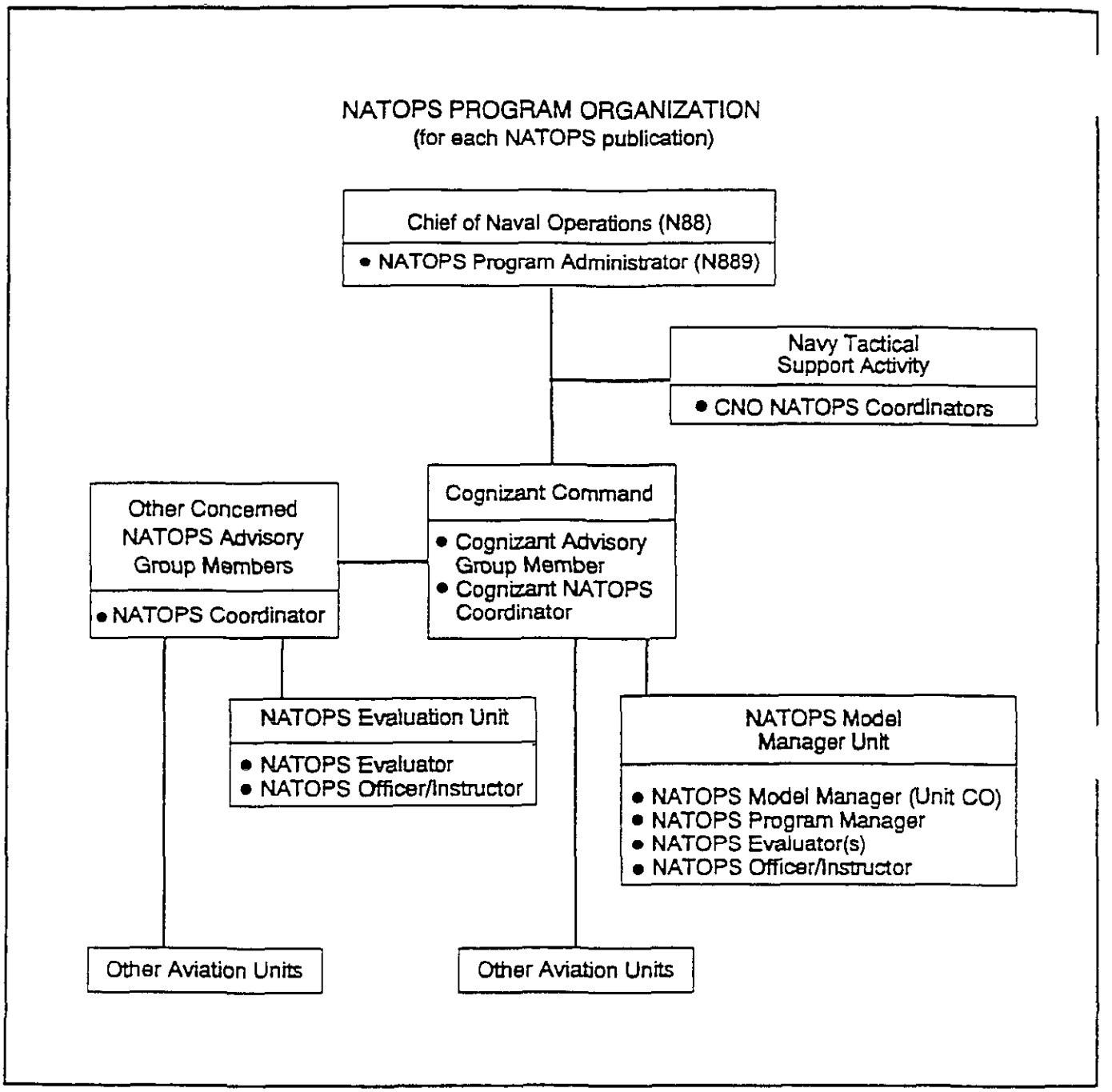


Figure 2-1. NATOPS Program Organization

g. NATOPS Program Manager — An officer assigned by the model manager who performs administrative responsibilities for the NATOPS program and who is given written authority to act on behalf of the model manager in NATOPS-related matters. The program manager shall be highly qualified in model and should be assigned these responsibilities for a minimum of 18 months.

h. NATOPS Evaluation Unit — A command designated by an advisory group member, normally the cognizant command, to conduct annual NATOPS evaluations of units assigned to that advisory group member.

i. NATOPS Evaluator — A highly qualified aircrew member assigned to a NATOPS evaluation unit who conducts annual unit NATOPS evaluations for a flightcrew position. Designations shall be in writing by the commanding officer of the evaluation unit. If the advisory group member is also the cognizant command for the aircraft concerned, the NATOPS evaluator should be in the Model Manager unit.

j. NATOPS Instructor — A highly qualified aircrew member whose primary duty should be administering the NATOPS evaluation program within a squadron or unit. The NATOPS instructor shall receive initial and subsequent NATOPS evaluations from the appropriate NATOPS evaluator and be designated in writing by the commanding officer.

k. Assistant NATOPS Instructor — A highly qualified aircrew member who can administer NATOPS evaluation checks. The assistant NATOPS instructor shall receive initial and subsequent NATOPS evaluations from either the appropriate NATOPS evaluator or squadron or unit NATOPS instructor and be designated in writing by the commanding officer.

l. Squadron NATOPS Officer — An aviator whose primary duty is to administer the NATOPS program within a squadron or unit. The NATOPS officer may also be the NATOPS instructor.

2.2.2 Responsibilities

a. Chief of Naval Operations — The CNO NATOPS program administrator, N889, oversees and monitors the entire NATOPS program, formulates and issues specific CNO policy, is the model manager for OPNAVINST 3710.7, approves and releases interim changes, and designates cognizant commands.

b. CNO NATOPS Coordinators — The CNO NATOPS coordinators represent CNO at all NATOPS review conferences, manage all aspects of NATOPS manual production from development to printing, and prepare interim changes for CNO release. In addition, they coordinate the activities of the NATOPS advisory group members, model managers, and aircraft contractors; and compile and distribute the NATOPS and Air TACMAN Combined status report.

c. Navy Tactical Support Activity — NAVTACSUPPACT (NTSA) is a field activity of CNO. Officers designated as CNO NATOPS coordinators are currently assigned to NTSA. NTSA is editorially responsible for all NATOPS publications not under contract to civilian corporations and/or for aircraft no longer in production. NTSA's editorial cognizance includes publication format and organization per applicable Mil Specs and the NTSA Style Guide, and word and phrase usage in accordance with Navy, DOD, and Government Printing Office directives.

d. NATOPS Advisory Group — Group members shall monitor the NATOPS program and are responsible to CNO for its proper operation. The advisory group shall meet, as required, to properly implement and coordinate the program. Each member shall designate a NATOPS coordinator and, other than COMNAVSAFECEN, designate model managers and evaluation units (as required) and issue instructions implementing NATOPS directives that shall include NATOPS evaluation, waiver, and reporting procedures.

(1) NATOPS Coordinator — Responsible for coordinating the overall command NATOPS program as directed by the appropriate advisory group member. The coordinator will maintain liaison with other coordinators and the CNO NATOPS coordinators and shall attend or designate in writing a fully-authorized representative to attend applicable NATOPS review conferences. Designated representatives shall ensure that copies of their letters of designation are forwarded to the CNO NATOPS coordinator at NAVTACSUPPACT (Code 60). The coordinator shall ensure that an annual evaluation is conducted on each NATOPS evaluator within the command. The evaluation should, if practicable, be administered by a like-model evaluator from another major command, but may be performed by a like-model NATOPS instructor within the same major command if necessary. The report of the evaluation shall be forwarded to the evaluator's commanding officer.

(2) Cognizant Command — Responsible for oversight of the NATOPS program for specifically assigned model aircraft or aviation-related function. All cognizant commands are advisory group members. The cognizant command convenes NATOPS review conferences and processes urgent change recommendations. Additionally, prior to convening a review conference, the cognizant command shall coordinate with NAVAIRSYSCOM, through NAVAIRTECHSERVFAC, to verify funding availability to produce NATOPS publications.

(3) COMNAVAIRSYSCOM — Because of their systems test and evaluation mission, COMNAVAIRSYSCOM has cognizance over all aircraft equipment limitations and technical data in NATOPS publications and is responsible for ensuring the airworthiness of all naval aircraft configurations.

(4) COMNAVSAFECEN — Shall only be responsible for informing other advisory group members of the effectiveness of the NATOPS program as it applies to aviation safety. This includes comments on routine (conference agenda) and urgent change recommendations.

e. NAVOPMEDINST — Designated as the aviation training model manager for emergency egress.

f. NATOPS Model Manager — The model manager shall review the assigned NATOPS publications to ensure that they contain the latest approved operating procedures and make appropriate recommendations to the cognizant command on all matters concerning the NATOPS manuals.

g. NATOPS Program Manager — Responsible to the model manager for specific duties in the maintenance of the assigned NATOPS publications, and acts as the model manager's single point of contact for all NATOPS related issues. This assignment is delineated in the NATOPS and Air TACMAN Combined Status Report. The program manager shall:

(1) Conduct a continuous review of existing publications, including appropriate NATOPS manuals, maintenance instruction manuals (MIMs), handbooks of overhaul instructions (HOIs), Allied tactical publications (ATPs), naval warfare publications (NWPs), and associated instructions to discover any conflicts that might exist.

(2) Report conflicts to the appropriate NATOPS coordinator, the model manager (if appropriate), and the activity responsible for the content of the conflicting directive, including recommendations for resolving the conflict.

(3) Maintain close liaison with evaluators of similar aircraft models to correlate data, locate any areas of weakness, and recommend appropriate action.

(4) Make recommendations to the model manager on when to schedule review conferences.

(5) Provide guidance and assistance to NATOPS instructors.

(6) Visit and observe, as appropriate, special exercises, tests, and projects involving new operating techniques or procedures applicable to the model aircraft.

(7) Review the NATOPS and Air TACMAN combined status report to ensure the accuracy of all pertinent information.

(8) Forward a copy of designation letter and point-of-contact phone number(s) to the cognizant command and the CNO NATOPS Coordinator.

h. NATOPS Evaluator — The NATOPS evaluator conducts annual evaluations of all NATOPS instructors (or assistant NATOPS instructors, if possible) within the same major command. The 12-month evaluation cycle may be extended up to 18 months for circumstances such as extended deployments, and only for units whose previous evaluations indicated a high degree of NATOPS program effectiveness. One or more flightcrews from each unit shall be evaluated at random to measure overall compliance with NATOPS. Evaluation results shall be forwarded to each unit commander.

i. NATOPS Instructor — The NATOPS instructors shall conduct an evaluation on all flight crewmembers within their units. Instructors are responsible to the commanding officer for providing the required standardization and shall keep the commanding officer informed of NATOPS development within the community and the unit.

j. Assistant NATOPS Instructor — Assists squadron NATOPS instructor in performing assigned duties. Assigned as deemed necessary by the commanding officer.

2.2.3 NATOPS Program Products and Publications

a. NATOPS and Air TACMAN Combined Status Report — A report prepared by the CNO NATOPS coordinators and distributed by NAVTACSUPPACT via the NTIC, delineating the status of all NATOPS and Air TACMAN publications, cognizant command, model manager, and program manager assignments, and other pertinent information.

b. NATOPS Flight Manual (NFM) — A manual for a specific aircraft model containing standardized ground and flight operating procedures, training requirements, aircraft limitations, and technical data necessary for safe and effective operation of the aircraft. To reduce the size of some NFMs, supplements may be issued for specific secti (e.g. Weapons System Supplement, Performa Charts Supplement).

c. NATOPS Miscellaneous Manual — A manual issued for special aircraft-related operations or systems that require fleet-wide standardization (e.g., Aircraft Refueling NATOPS, CV NATOPS, LSO NATOPS).

d. Preliminary NATOPS Manual — A Preliminary NATOPS manual is a developmental manual that has not been issued (i.e., no Letter of Promulgation) or distributed for routine use in the fleet. It is only used during an aircraft's initial production and fleet introduction.

e. Partial NATOPS Flight Manual — An NFM issued for a variant of the basic aircraft model and affecting a small but significant percentage of the total fleet. This publication is used in conjunction with the basic NFM and addresses only the differences in the variant.

f. NATOPS Checklists — Excerpts, often in abbreviated form, of selected sections of the NFM or supplement, designed for easy accessibility for use while airborne.

g. NATOPS Program Managers Handbook — A guide written by the CNO NATOPS Coordinator. It is a detailed description of the functions and responsibilities of the program manager. Available on the NTIC, this handbook answers all questions on updating manuals.

h. NAVTACSUPPACT Changes Program — A computer software program used to build and manipulate a database of proposed changes as the conference agenda. The computer format allows entry of the same basic information as contained on the OPNAV 3710/6 NATOPS Change Recommendation Form, and is available on the NTIC.

2.3 NATOPS PROGRAM ADMINISTRATION

2.3.1 General Administrative Requirements

a. Publication Format — The technical content, style, and format for NATOPS publications shall be in accordance with the applicable military specifications and the Navy Tactical Support Activity Style Guide, NTSA-ED-10-1.

b. Letters of Designation — Designations of responsibilities discussed above shall be made in writing, on command letterhead, with copies to CNO (N889) and NAVTACSUPPACT (Code 60).

c. Waivers — Commands indicated in the first column of Figure 2-2 may grant waivers to the provisions of NATOPS manuals to develop new procedures or when compliance is impractical. Waiver requests for this instruction are addressed in paragraph 1.1.4. Waivers shall always indicate the purpose for which granted and include a time limit. If a waiver must be continually renewed, it is a good indication that the particular procedure, requirement, or limitation should be revised. Waiver authority may be delegated in writing at the discretion of the empowered commands listed in the second column of Figure 2-2. A copy of all waivers shall be forwarded to CNO (N889J) and to COMNAVSAFECEN (Code 11).

DELEGATING COMMAND	WAIVER AUTHORITY MAY BE ISSUED TO:
CNO	ALL COMMANDS
CMC	FOURTH MAW/MCCDC
CNAVRES	NAVAIRESFOR
FLEET AND FLEET AIR TYPE COMMANDERS	FLEET COMMANDS
COMMARFORPAC	MARFORPAC MARCORBASESPAC COMCABSWEST
COMMARFORLANT	MARFORLANT COMCABSEAST
CNATRA	ALL CNATRA ACTIVITIES
COMNAVAIRSYSCOM	ALL COMNAVAIRSYSCOM AND DLA ACTIVITIES

Figure 2-2. Waiver Delegation Authority

d. Report and Forms

(1) Report symbol OPNAV 3710-21, "NATOPS Evaluation Report," (Figure A-9) is approved in accordance with Appendix A.

(2) Copies of the NATOPS/Tactical Manual Change Recommendation/OPNAV 3710/6 (4-90), stock number 0107-LF-009-7900 (Figure 2-3), and of the NATOPS Evaluation Report, OPNAV 3710/7 (4-90), stock number 0107-LF-009-8000 (Figure A-9), are listed in the NAVSUP Publication 2002D and are available as Cog "I" stock items that may be requisitioned from the Naval Inventory Control Point Center.

2.3.2 Types of Formal Changes to NATOPS Publications

a. Change — A printed update to a publication, which is limited to only those pages containing revised information. Printed changes to NATOPS publications shall include a new title page showing the change number and date below the original publication or revision date. The change number will appear on the bottom of all changed pages.

b. Revision — A second or subsequent edition of a complete publication, superseding the preceding edition and incorporating all previously issued changes. Revisions to NATOPS publications are indicated only by a revised date on the title page.

c. Interim Change — An update to a manual, often initiated by an urgent change recommendation, and issued by rapid means, normally via message. Occasionally because of size or complexity, interim changes are printed and distributed in the same way as a change or revision. Interim changes are numbered consecutively throughout the life of the NATOPS manual, regardless of the number of subsequent changes or revisions. Interim changes can only be canceled or modified by issuing another interim change.

2.3.3 Distribution of Changes

a. Revisions and changes are distributed in printed form to all organizations that are on automatic distribution for those publications.

b. Interim changes are issued in the following ways:

(1) By priority message to major aviation commands and other addressees when urgency so warrants. The major aviation commands shall immediately readdress and redistribute the priority message to appropriate subordinate commands.

(2) In printed form to all holders of the manual; the changes may be replacement pages, cutouts, or pen entries.

2.3.4 Incorporation of Changes

a. Numbered (printed) changes to manuals shall be inserted immediately. After checking against the list of effective pages, the superseded pages shall be destroyed.

b. Interim changes, entered either as replacement pages or as pen changes to the existing pages, shall be recorded on the interim change summary page in the front of the manual.

Note

The interim change summary page in each NATOPS manual should be checked against the NATOPS status report to determine if the manual contains the latest update.

c. Replacement pages that have been locally modified to incorporate message and/or printed interim changes that were not included in the latest printed change shall:

(1) Retain their printed change marking (e.g., ORIGINAL, CHANGE 1, CHANGE 2), and

(2) Be marked directly below the printed change marking with the number(s) of the interim change(s) (e.g., with IC 3, with IC 26 and 29) that modify them, as applicable.

2.4 CREATING AND REVISING NATOPS PUBLICATIONS

2.4.1 General

a. The effectiveness of the NATOPS program . dependent on the currency and accuracy of NATOPS publications. Inputs from many sources are used to maintain the integrity of the program. Any NATOPS publication user who notes a deficiency or error is obliged to submit a change recommendation. The participation of the individual is imperative if this process of continual manual improvement is to succeed.

b. Production of NATOPS publications requires close coordination between the model manager, the CNO NATOPS Coordinators, NAVTACSUPPACT, COMNAVAIRSYSCOM, COMNAVAIRWARCENACDIV, and the aircraft contractor.

2.4.2 Preliminary NATOPS Publications

a. Initial inputs to the Preliminary NFM shall be the responsibility of COMNAVAIRWARCENACDIV, the designated model manager, and the contractor. To update a manual, the cognizant command shall convene a conference, normally at the contractor facility, as operational data becomes available and new procedures and techniques are developed However, procedural changes to preliminary NA TOPS manuals can be approved and issued by the

model manager without using the formal NATOPS change recommendation approval process. The model manager has the responsibility to maintain complete records of such changes and to ensure that all users are promptly informed. This unique change procedure is only for preliminary NATOPS publications (which do not contain a Letter of Promulgation).

b. For NATOPS publications, COMNAVAIRSYSCOM shall provide technical information and recommended operating procedures to the model manager, who, after consulting with the CNO NATOPS Coordinators, may then modify the operating procedures as appropriate and issue the interim change without further administrative delay.

Note

The CNO NATOPS Coordinators assign all interim change numbers. When NAVAIR or a model manager of a preliminary NATOPS manual issues an interim change, NAVTACSUPPACT shall be contacted to obtain the correct number.

2.4.3 Change Recommendations. Change recommendations shall be submitted as either urgent or routine, per the following criteria:

a. Urgent change recommendations are those that cannot be delayed until the next review conference. Urgent change recommendations shall be generated anytime a hazard has been identified and classified as high risk with respect to personal injury, property damage, or mission degradation. If appropriate, include the phrase "safety of flight" in the subject line if the situation involves the fundamental airworthiness of the aircraft or operating procedures likely to place flight personnel in immediate danger. Transmission of urgent change recommendation messages is authorized during MINIMIZE.

b. Routine change recommendations are those that do not require immediate issuance to the fleet. Routine change recommendations are sent to the appropriate model manager on form OPNAV 3710/6 (4-90) as shown in Figure 2-3. The model manager will acknowledge receipt and make it a part of conference agenda for the next NATOPS review conference.

Note

The model manager may elect to upgrade the classification to urgent and process the recommendation as outlined in paragraph 2.4.4.

If the routine change is approved at the conference, it will be incorporated in the next change or revision to the appropriate NATOPS publications. NATOPS review conferences are normally held every 2 years. Therefore a routine change recommendation could take several years to be resolved.

2.4.4 Urgent Change Recommendations (UCRs). The UCR approval process follows a time-constrained set of procedures among members of the NATOPS advisory group as depicted in Figure 2-4.

a. UCRs and responses to them shall be sent by priority message whenever possible. UCRs that contain illustrations and/or extensive data should be forwarded by letter. Use of faxed or E-mail copies is strongly recommended to reduce both message transmission and mail delivery delays. The initial UCR message shall be sent to the advisory group member in the originator's chain of command, using the message format shown in Figure 2-5. NAVTACSUPPACT Code 60 and the NATOPS model manager shall also be included as information addressees. When the change recommendation affects any aspect of emergency egress, rescue, or survival, NAVOPMEDINST shall be included as an action addressee. UCRs that affect flying safety shall have the text "/SAFETY OF FLIGHT//" appended to the subject line.

b. The advisory group member receiving the initial UCR shall review it for appropriateness and completeness and then may cancel, downgrade to routine, or forward the UCR for further review (comments) and approval. Incomplete UCRs should be returned and staffed to meet the required standards. If approved by the originating command's advisory group member, the recommendation shall, within 3 working days, be forwarded with modifications and comments to the cognizant command. Information addressees shall include all other advisory group members exercising operational control over the model aircraft involved or designated in the affected publication, COMNAVAIRSYSCOM, COMNAVSAFECEN, COMNAVAIRWARCENACDIV (Codes 5.5.1/5.5.3), NAVTACSUPPACT, and the model manager. The advisory group member shall forward the initial message when downgrading or canceling a UCR.

c. COMNAVAIRSYSCOM has cognizance over all aircraft equipment limitations and technical data in

NATOPS/TACTICAL CHANGE RECOMMENDATION
OPNAV 3710/6 (4-90) S/N 0107-LF-009-7900 DATE _____

TO BE FILLED IN BY ORIGINATOR AND FORWARDED TO MODEL MANAGER

FROM (Originator)			Unit		
TO (Model Manager)			Unit		
Complete Name of Manual/Checklist	Revision Date	Change Date	Section/Chapter	Page	Paragraph

Recommendation (be specific)

☐ CHECK IF CONTINUED ON BACK

Justification

Signature	Rank	Title

Address of Unit or Command

TO BE FILLED IN BY MODEL MANAGER *(Return to Originator)*

FROM	DATE

TO

REFERENCE

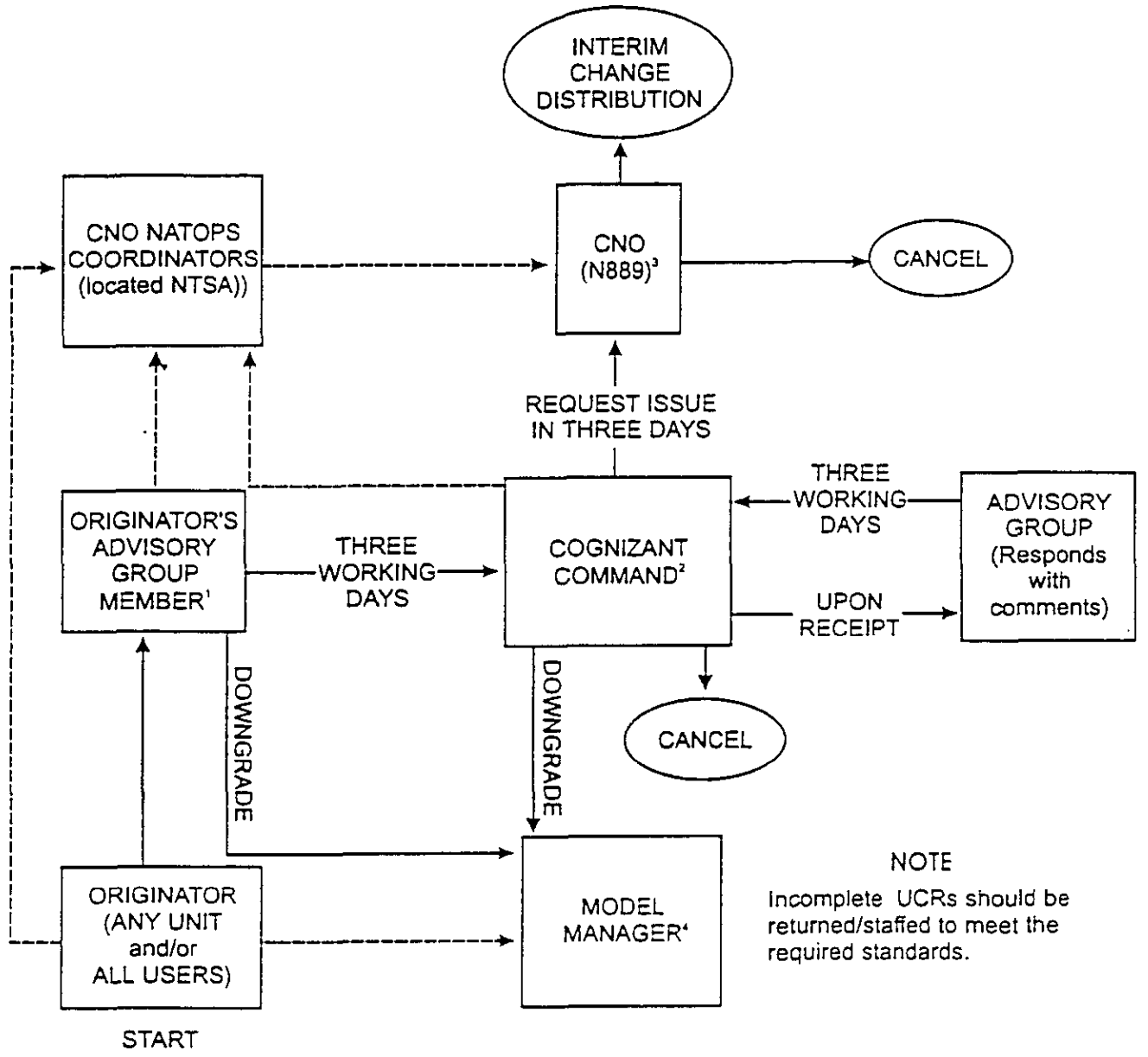
(a) Your Change Recommendation Dated _____

☐ Your change recommendation dated _____ is acknowledged. It will be held for action of the review conference planned for _____ to be held at _____

☐ Your change recommendation is reclassified URGENT and forwarded for approval to _____ by my DTG _____ .

/S/ _____ MODEL MANAGER	_____ AIRCRAFT

Figure 2-3. NATOPS/Tactical Change Recommendation



---------- UCR Info/Advisory Copy

———— UCR Decision Path

1. Two options: Forward for approval or downgrade to routine.
2. Three options: Forward for approval, downgrade to routine, or cancel.
3. Two options: Approve (and distribute) or cancel.
4. Include UCR as an agenda item for next review conference.

Figure 2-4. UCR Approval Process

P R *date-time group*

FM *Originator*//***//

TO *Advisory group member in your chain of command* //***//

INFO COMNAVAIRSYSCOM PATUXENT RIVER MD//5.0F/4.1// *(If it's a safety-of-flight issue)*

COMNAVSAFECEN NORFOLK VA//***// *(If it's a safety-of-flight issue)*

NAVOPMEDINST PENSACOLA FL//06// *(If aircrew emergency egress/rescue/survival equipment/ procedures involved)*

NAVAIRSYSCOM PMA *code* //***/ *(If out-of-production aircraft involved)*

Other appropriate units in your chain of command //***//

NAVTACSUPPACT WASHINGTON DC//60//

Model Manager unit //***//

Evaluator unit in your chain of command //***// *(If different from the model manager)*

HMX ONE QUANTICO VA//C148-11// *(If H-3, CH-46E, CH-53 or H-60 aircraft involved)*

UNCLAS //N03711//

MSGID/GENADMIN/ *originator unit* //

SUBJ/URGENT CHANGE RECOMMENDATION TO *aircraft/title* NATOPS PUBLICATIONS//

(When appropriate, add: /SAFETY OF FLIGHT)

REF/A/DOC/OPNAV/ *revision date* //

AMPN/REF A IS OPNAVINST 3710.7R, CHAP 2//

REF/B/DOC/NAVAIR/ *date of latest change or revision* //

AMPN/REF B IS NAVAIR *pub # (short NATOPS title)* // *(e.g: NAVAIR 01-T34AAC-1 (T-34C NFM))*

REF/C/.....// *(Additional references as necessary)*

AMPN/.....//

POC/.....//

RMKS/1. IAW REF A, RECOMMEND CHANGE REF B (AND C, etc.) AS FOLLOWS:

A. CHANGE REF B, PART *number*, CHAPTER *number*, PAGE *number*, FIGURE/PARAGRAPH *number and title*, SENTENCE/LINE *number or other identifiable landmark on page*.

(1) DELETE: *(Always indicate what is to be deleted. If no deletion is necessary, enter NA).*

(2) ADD: *(Quote new text or describe changed material. If none, enter NA. Unless otherwise indicated, new text is inserted in the same location as deleted material.)*

B. *(Continue change recommendations with next pub and/or next location).*

2. JUSTIFICATION: *(Enter remarks necessary to justify change recommendations.)//*

BT

Note

- *** indicates message routing code. (use "JJJ" when code required but not known).
- NATOPS Advisory Group routing codes are shown in the Urgent Change Recommendation section of the NATOPS and AIR TACMAN Combined Status Report and in the subject publication.
- This sample is intended as a content guide. Refer to NTP-3 for detailed GENADMIN MTF formatting instructions.

Figure 2-5. Sample NATOPS Urgent Change Recommendation Message

NATOPS publications. The cognizant command/ model manager has cognizance over all operating procedures and ensures that those procedures remain within the technical limitations. The CNO NATOPS Coordinator has cognizance over the content and specifications. Following receipt of a UCR that involves technical information, COMNAVAIRSYSCOM may issue it directly as an interim change provided that it does not affect operating procedures. However, COMNAVAIRSYSCOM may issue such interim changes only after consultation with the cognizant command, the model manager, and CNO NATOPS Coordinator.

Note

The CNO NATOPS Coordinators assign all interim change numbers when NAVAIR or a model manager of a NATOPS manual issues an interim change, the CNO NATOPS coordinators shall be contacted to obtain the correct number.

d. Upon receipt of a UCR, the Cognizant Command shall request the comments of the other appropriate advisory group members (advisory group members not exercising operational control of subject aircraft need not respond), CNO NATOPS coordinators at NAVTACSUPPACT, and the model manager (see Figure 2-6). For cases that involve both technical information and operating procedures, COMNAVAIRSYSCOM shall provide approved technical information and any recommended procedures to the Cognizant Command, who shall in turn request comments from the advisory group, NAVTACSUPPACT, and the model manager before recommending final action to CNO.

e. Within 3 working days, action addressees shall forward comments (i.e., concurrence, nonconcurrence, or recommendations) to the Cognizant Command, with the CNO, COMNAVAIRSYSCOM, COMNAVSAFECEN, NAVTACSUPPACT, and the model manager as information addressees (see Figure 2-7). Advisory group members who are unable to forward their comments within the allotted 3 working days shall forward to the Cognizant Command an interim report that includes the reason for the delay and an estimate of when their recommendation will be forthcoming.

f. Within 6 working days of initial receipt of an UCR sent by an advisory group member, the Cognizant Command shall either cancel or downgrade the UCR, or submit a request to issue the recommended change to CNO, with NAVTACSUPPACT, the model manager, and others as appropriate as information addressees (see Figure 2-8).

g. Upon receipt of the Cognizant Command's recommendation for issuance, CNO NATOPS Coordinators at NAVTACSUPPACT shall prepare an interim change package that includes copies of the original UCR, all related messages and other correspondence, copies of the affected pages of the subject publication indicating the recommended change, and magnetic and paper copies of the draft interim change message. The CNO NATOPS Coordinator shall forward the package to CNO (N889) for approval and release.

2.4.5 Interim Change Messages. The interim change message (with the exception of the NATOPS Conference advance change messages) shall be complete in itself and should not require the user to refer to another source for the approved text. Interim change messages shall be in the format of Figure 2-9, with copies to all commands listed, as appropriate for the changed publication. Advisory group members are responsible for readdressal of interim change messages to their subordinate commands. Use of COMNAVSAFECEN collective address designator (CAD) message addresses (i.e., ALL TOMCAT AIRCRAFT ACTIVITIES) is authorized for the issuance of NATOPS interim changes.

2.5 NATOPS REVIEW CONFERENCE PROCEDURES

2.5.1 General. The effectiveness of the NATOPS program is largely dependent upon frequent review and updating of NATOPS manuals to ensure that they reflect current procedures and accurate technical information. The formal NATOPS review conference is the primary means of carrying out this phase of the program. Procedures set forth in this chapter are intended to ensure that maximum benefit is realized from these conferences.

Note

Correspondence reviews of NATOPS publications, in lieu of formal NATOPS review conferences, are not within the intent of this chapter and shall only be authorized by waiver from the CNO NATOPS coordinator.

2.5.2 Responsibility. The responsibility for scheduling, convening, and conducting a NATOPS review conference rests with the appropriate Cognizant Command. In performing those functions, the Cognizant

P R *date-time group*

FM *Cognizant Command//***//*

TO *Other advisory group members* *//***//* ***(Include those who operate the subject aircraft/equipment)***

INFO CNO WASHINGTON DC//N889J//

NAVOPMEDINST PENSACOLA FL//06// ***(If aircrew emergency egress/rescue/survival equipment/procedures involved)***

NAVAIRSYSCOM PMA *code* *//***/* ***(If out-of-production aircraft involved)***

NAVTACSUPPACT WASHINGTON DC//60//

Model Manager unit *//***//*

Evaluator unit *//***//* ***(If different from the model manager)***

DCMC *name//***//* ***(If in-production aircraft involved)***

HMX ONE QUANTICO VA//C148-11// ***(If H-3, CH-46E, CH-53 or H-60 aircraft involved)***

UNCLAS //N03711//

MSGID/GENADMIN/ *Cognizant Command* //

SUBJ/URGENT CHANGE RECOMMENDATION TO *aircraft/title* NATOPS PUBLICATION(S)//

(If appropriate, add: /SAFETY OF FLIGHT)

REF/A/RMG/ *UCR Originator* / *date-time group* // ***(Original UCR message)***

REF/B/DOC/OPNAV/ *revision date* //

AMPN/REF B IS OPNAVINST 3710.7R, CHAP 2//

REF/C/.....// ***(Background information on the recommendation)***

AMPN/.....//

POC/ *name of Cog NATOPS coordinator* / *DSN phone number* //

RMKS/1. REQUEST COMMENTS, RECOMMENDATIONS, AND CONCURRENCE OR NONCONCURRENCE ON REF A. PER REF B, YOUR RESPONSE IS REQUIRED WITHIN THREE WORKING DAYS.//

BT

Note

- *** indicates message routing code. (use "JJJ" when code required but not known).
- NATOPS Advisory Group routing codes are shown in the Urgent Change Recommendation section of the NATOPS and AIR TACMAN Combined Status Report and in subject publication.
- This sample is intended as a content guide. Refer to NTP-3 for detailed GENADMIN MTF formatting instructions.

Figure 2-6. Sample Cognizant Request for Comments Message

P R *date-time group*
FM *Originator* //***//
TO *Cognizant Command* //***// *(If originator is advisory group member or action addressee, or . . .)*
Advisory group member in your chain of command //***// *(If originator is subordinate to an advisory group member and an info addressee on the request for comments)*
INFO · CNO WASHINGTON DC//N889J//
Other advisory group members //***// *(Include those who operate the subject aircraft/equipment)*
NAVOPMEDINST PENSACOLA FL//06// *(Emergency egress/rescue/survival equipment/procedures involved)*
NAVAIRSYSCOM PMA *code* //***/ *(If out-of-production aircraft involved)*
Other appropriate units in your chain of command//***//
NAVTACSUPPACT WASHINGTON DC//60// *(If not an action addressee)*
Model manager unit //***//
Evaluator unit in your chain of command//***// *(If different from the model manager)*
DCMC *name* //***// *(If in-production aircraft is involved)*
HMX ONE QUANTICO VA//C148-11// *(When H-3, CH-46E, CH-53 or H-60 aircraft involved)*
UNCLAS //N03711//
MSGID/GENADMIN/ *Originator unit* //
SUBJ/URGENT CHANGE RECOMMENDATION TO *aircraft/title* NATOPS PUBLICATION(S)//
(When appropriate, add: /SAFETY OF FLIGHT)
REF/A/DOC/OPNAV/ *revision date*)//
AMPN/REF A IS OPNAVINST 3710.7R, CHAP 2//
REF/B/RMG/ *UCR originator* / *UCR date-time group* // *(Original UCR message)*
REF/C/DOC/NAVAIR/ *date of latest change or revision* //
AMPN/REF C IS NAVAIR *pub # (short NATOPS title)*// *(e.g: NAVAIR 01-T34AAC-1 (T-34C NFM))*
REF/D/.....// *(Additional references as necessary)*
AMPN/.....//
POC/.....//
RMKS/1. IAW REF A, CONCUR WITH REF B CHANGES TO REF C.*(Concurring without comments, or...)*
1. IAW REF A, DO NOT CONCUR WITH REF B CHANGES TO REF C. *(Non-concurring or...)*
1. IAW REF A, RECOMMEND MODIFY REF B, AS FOLLOWS: *(Propose modifying the UCR,)*
A. CHANGE REF C, PART *number*, CHAPTER *number*, PAGE *number*, FIGURE/PARAGRAPH *number*, SENTENCE/LINE *number or other identifiable landmark on page*.
(1) DELETE: *(Always indicate what is to be deleted. If no deletion is necessary, enter NA).*
(2) ADD: *(Quote new text or describe changed material. If none, enter NA. Unless otherwise indicated, new text is inserted in the same location as deleted material).*
B. *(Continue change recommendations with next pub and/or next location).*
2. JUSTIFICATION: *(Enter remarks to substantiate the non-concurrence or modification recommendation.)//*
BT

Note

- *** indicates message routing code. (use "JJJ" when code required but not known).
- NATOPS Advisory Group routing codes are shown in the Urgent Change Recommendation section of the NATOPS and AIR TACMAN Combined Status Report and in subject publication.
- This sample is intended as a content guide. Refer to NTP-3 for detailed GENADMIN MTF formatting instructions.

Figure 2-7. Sample Response to a Request for Comments Message

P R *date-time group*

FM *Cognizant Command*//***//

TO CNO WASHINGTON DC//N889J//

NAVTACSUPPACT WASHINGTON DC//60//

INFO *Other advisory group members* //***// *(Include those who operate the subject aircraft/equipment)*

Model Manager unit //***//

Evaluator unit //***// *(If different from the model manager)*

UNCLAS //N03711//

MSGID/GENADMIN/ *Cognizant Command* //

SUBJ/URGENT CHANGE RECOMMENDATION TO *aircraft/title* NATOPS PUBLICATION(S)//

(If appropriate, add: /SAFETY OF FLIGHT)

REF/A/DOC/OPNAV/ *revision date* //

AMPN/REF A IS OPNAVINST 3710.7R, CHAP 2//

REF/B/RMG/ *UCR Originator* / *date-time group* // *(Original UCR message)*

REF/C/...../// *(Additional references such as recommended modifications to UCR or subject NATOPS flight manual.)*

AMPN/...../

POC/ *name of Cog NATOPS coordinator* / *DSN phone number* //

RMKS/1. IAW REF A, REQUEST ISSUE REF B. *(or...)*

1. IAW REF A, REQUEST ISSUE REF B AS MODIFIED BY REF C *(or...)* MODIFIED AS FOLLOWS:

A. A. CHANGE REF C, PART *number*, CHAPTER *number*, PAGE *number*, FIGURE/PARAGRAPH *number and title*, SENTENCE/LINE *number or other identifiable landmark on page*.

(1) DELETE: *(Always indicate what is to be deleted. If no deletion is necessary, enter NA).*

(2) ADD: *(Quote new text or describe changed material. If none, enter NA. Unless otherwise indicated, new text is inserted in the same location as deleted material.)*

B. *(Continue change recommendations with next pub and/or next location).* *(or...)*

1. IAW REF A, CANCEL REF B. *(or...)*

1. IAW REF A, DOWNGRADE REF B TO ROUTINE. MODEL MANAGER IS DIRECTED TO INCLUDE RECOMMENDED CHANGE IN THE AGENDA OF THE NEXT REVIEW CONFERENCE.

2. *(Enter any remarks necessary to explain disposition.)//*

BT

Note

- *** indicates message routing code. (use "JJJ" when code required but not known).
- NATOPS Advisory Group routing codes are shown in the Urgent Change Recommendation section of the NATOPS and AIR TACMAN Combined Status Report and in subject publication.
- This sample is intended as a content guide. Refer to NTP-3 for detailed GENADMIN MTF formatting instructions.

Figure 2-8. Sample Cognizant Command UCR Final Disposition Message

P R *date-time group*
FM *Originator* //***// *(CNO, COMNAVAIRSYSCOM, or Model Manager (preliminary publication only)*
TO ALL *CAD name* AIRCRAFT/HELICOPTER ACTIVITIES//***// *(If CAD available, and contains all action and info addressees, otherwise include the following:)*
CNO WASHINGTON DC//N889J// *(If not the message originator)*
COMNAVAIRSYSCOMPATUXENT RIVER MD//5.0F/4.1// *(If not the message originator)*
Other advisory group members //***// *(Include operators of the subject aircraft/equipment)*
COMNAVSURFLANT NORFOLK VA//***// *(When an Advisory Group Member)*
COMNAVSURFPAC SAN DIEGO CA//***// *(When an Advisory Group Member)*
NAVAVNDEPOT *name* //***// *(If assigned as cognizant field activity)*
NAVAIRSYSCOM PMA *code* //***/ *(If assigned as model manager)*
INFO CINCLANTFLT NORFOLK VA//***// *(For non-aircraft NATOPS Manuals (e.g: CV NATOPS Manual)*
CINCPACFLT PEARL HARBOR HI//***// *(For non-aircraft NATOPS Manuals (e.g: CV NATOPS Manual)*
COMNAVSURFLANT NORFOLK VA//***// *(When not an Advisory Group Member and surface units involved)*
COMNAVSURPAC SAN DIEGO CA//***// *(When not an Advisory Group Member and surface units involved)*
COMNAVSAFECEN NORFOLK VA//***//
Other advisory group members //***// *(As designated in subject publication)*
COMNAVAIRWARCENACDIV PATUXENT RIVER MD//***//
NAVTACSUPPACT WASHINGTON DC//60//
NAVOPMEDINST PENSACOLA FL//06// *(If aircrew emergency egress/rescue/survival equipment/ procedures involved)*
Model Manager unit //***// *(If not the message originator)*
Evaluator unit in your chain of command //***// *(If different from the model manager)*
DCMC *name* //***// *(If in-production aircraft is involved)*
HMX ONE QUANTICO VA//C148-11// *(If H-3, CH-46E, CH-53 or H-60 aircraft involved)*
UNCLAS //N03711//
MSGID/GENADMIN/ *originator unit* //
SUBJ/INTERIM CHANGE TO *aircraft/title* NATOPS PUBLICATIONS// *(When appropriate, add: /SAFETY OF FLIGHT)*
REF/A/DOC/NAVAIR/ *date of latest change or revision* //
AMPN/REF A IS NAVAIR *pub # (short NATOPS title)*// *(e.g: NAVAIR 01-T34AAC-1 (T-34C NFM))*
REF/B/.....// *(Additional references as necessary)*
AMPN/.....//
POC/.....//
RMKS/1. THIS IS INTERIM CHANGE *next secuential number* TO REF A, AND INTERIM CHANGE *next number* TO REF B, AND ... *(etc.)*. *(Interim change numbers are assigned by the CNO NATOPS Coordinator)*
2. SUMMARY. *(One sentence summary of change)*
3. CHANGE REF A AS FOLLOWS:
A. PART *number*, CHAPTER *number*, PAGE *number*, FIGURE/PARAGRAPH *number and title*, SENTENCE/LINE *number or other identifiable landmark on page*.
(1) DELETE: *(Always indicate what is to be deleted. If no deletion is necessary, enter NA).*
(2) ADD: *(Quote new text or describe changed material. If none, enter NA. Unless otherwise indicated, new text is inserted in the same location as deleted material.)*
B. *(If required, continue changes to next location in Ref A.)*
4. *(Continue changes to remaining references, as in paragraph 3.)*//
BT

Note

- *** indicates message routing code. (use "JJJ" when code required but not known). NATOPS Advisory Group routing codes are shown in the Urgent Change Recommendation section of the NATOPS and AIR TACMAN Combined Status Report and in subject publication.

- This sample is intended as a content guide. Refer to NTP-3 for detailed GENADMIN MTF formatting instructions.

Figure 2-9. Sample NATOPS Interim Change Message

Command is assisted by the model manager and the CNO NATOPS Coordinators.

2.5.3 Contractor Support of NATOPS Review Conferences. The cognizant command may authorize the use of a civilian contractor to assist the model manager during the conference. Close coordination between the contracting officer, the CNO NATOPS Coordinator, and NAVTACSUPPACT is required in determining the scope of the support contract appropriate for a review conference. NAVTACSUPPACT shall be contacted to determine editorial responsibilities prior to writing specifications for contract deliverables.

2.5.4 Convening Decision. The determination as to the need for a conference shall be made by the cognizant command; based on recommendations from the model manager and the CNO NATOPS Coordinator. Conferences should be held every 2 years. Under certain circumstances a delay of more than 2 years may be warranted, but in no case shall a publication exceed 5 years between conferences. Consideration should be given to the following in determining when to hold a conference:

a. The number and importance of routine change recommendations.

b. The number of interim changes issued since the manual's latest revision or change was issued. A large number of interim changes may indicate that an overall program review is necessary.

c. An abnormal increase in the aircraft accident rate. Such an increase may indicate that training and operating procedures should be updated and further standardized.

d. Major aircraft modifications. Major changes usually require detailed description and the incorporation of new or modified procedures.

e. Assignment of new missions or changes to the basic mission.

2.5.5 Scheduling. The CNO NATOPS coordinator shall maintain a master schedule of all NATOPS review conferences. As soon as possible after the decision to convene a conference has been made, and prior to releasing a conference convening message, the cognizant command, or the model manager shall contact the CNO NATOPS coordinator, by informal means to determine a feasible date prior to releasing a conference-convening announcement message. The mutually agreed-upon proposed date shall not conflict with any previously scheduled conferences.

2.5.6 Conference Location. The cognizant command shall determine the location of the review conference. Review conferences are normally held at the aircraft manufacturer's facility for all in-production aircraft. In the interest of conserving TAD funds, conferences for out-of-production aircraft should be scheduled at a Navy facility whenever practicable, preferably at the model manager's home station.

2.5.7 Convening Announcement

a. When the review conference date and location have been confirmed and appropriate funding has been identified, the cognizant command shall originate the convening announcement message. The convening announcement shall precede the conference date by at least 45 days.

b. Announcement of the review conference shall be by message (Figure 2-10) to all major aviation commands employing the aircraft: NAVTACSUPPACT, COMNAVAIRSYSCOM, COMNAVSAFECEN, COMNAVAIRWARCENACDIV, NAVOPMEDINST, NAVAIRTECHSERVFAC, DCMC at the manufacturer's facility, or commanding officer of the hosting activity with information copy to CNO. It shall include dates and location of the conference; billeting availability; conference fees; request for the names, grades, service numbers, special billeting requirements, and security clearances of the attendees; and request for agenda items (as well as an address and deadline for their submission).

c. Upon receipt of the convening announcement, advisory group NATOPS coordinators shall inform units within their commands as appropriate. Review conference announcements and requests for agenda items should receive wide dissemination within the NATOPS organization.

d. A representative from each applicable advisory group command shall attend the conference. A CNO NATOPS coordinator is required at all NATOPS conferences. NATOPS conference attendees shall be well qualified and authorized to speak for their commanding officers in all matters pertaining to NATOPS. Command-delegated authority shall be assumed to exist by virtue of the representative's presence at the conference. If multiple representatives attend from the same command, the senior representative shall be considered the commanding officer's spokesman.

P R *date-time group*

FM *Cognizant Command*//***//

TO *Other Advisory Group members* //***//*(Include those who operate the subject aircraft/equipment)*

Appropriate user commands

Model Manager unit //***//

Evaluator unit(s) //***// *(If different from the model manager)*

NAVTACSUPPACT WASHINGTON DC//60//

INFO CNO WASHINGTON DC//N8895//

NAVOPMEDINST PENSACOLA FL//06//

UNCLAS //N03711//

MSGID/GENADMIN/ *Cognizant Command* //

SUBJ/ *Aircraft/title* NATOPS REVIEW CONFERENCE CONVENING ANNOUNCEMENT//

REF/A/DOC/OPNAV/ *revision date* //

AMPN/REF A IS OPNAVINST 3710.7_, CHAP 2//

POC/*Name/Rank/Command*/-/*TEL:DSN ###-####/TEL:COMM (###)###-####/TEL: FAX:###-####*//

RMKS/1. IAW REF A, SUBJ CONFERENCE IS SCHEDULED TO CONVENE *time, date* AT *installation name, state, building, room #.* THE MODEL MANAGER, *model manager unit,* WILL CHAIR THE CONFERENCE.

2. CLASSIFICATION. THE MEETING WILL BE *unclassified/confidential/secret* ATTENDEES SHALL SEND/FAX SECURITY CLEARANCES AND VISIT REQUESTS TO *security manager/ address/fax number*. VISIT REQUEST SHALL INCLUDE NAME, RANK/RATE, SSN, MAILING ADDRESS, AND PHONE/FAX NUMBERS.

3. BILLETING ARRANGEMENTS *(Indicate arrangements)*. A LIMITED NUMBER OF BOQ ROOMS HAVE BEEN RESERVED FOR CONFERENCE ATTENDEES. CALL MCAS *OR* NAS *name of base* BOQ FOR INDIVIDUAL RESERVATION AT COMM *(###)###-###*, DSN *###-###*. *(OR)* CALL CENTRAL BOQ RESERVATIONS AT 1-800-576-9327 TO RESERVE A ROOM. RENTAL CAR *available/not available* IN LOCAL AREA. UNIFORM IS *uniform* . THERE WILL BE A *fee amount* CONFERENCE FEE ASSESSED TO ALL ATTENDEES. FOR PROPER REIMBURSEMENT, FEE SHOULD BE INDICATED ON TAD ORDERS.

4. SCOPE. THE FOLLOWING NATOPS PUBLICATIONS WILL BE REVIEWED:

NAVAIR ### - - - type manual

NAVAIR ### - - - type manual (etc)

5. PREPARATION. SUBMIT CONFERENCE AGENDA ITEMS TO THE MODEL MANAGER NO LATER THAN *date 30 days prior to the conference convening date*. ITEMS RECEIVED AFTER THIS DEADLINE WILL BE REVIEWED IF TIME PERMITS. *(OR)* ITEMS RECEIVED AFTER THIS DEADLINE WILL BE HELD FOR THE NEXT CONFERENCE. NATOPS MANUALS *WILL (OR) WILL NOT* BE AVAILABLE AT THE CONFERENCE. PLEASE BE SURE TO BRING ALL NECESSARY PUBLICATIONS. OTHER CONFERENCE SPECIFICS WILL BE PROVIDED WITH AGENDA ITEMS PACKAGE TO BE DISTRIBUTED 20 DAYS PRIOR TO THE CONFERENCE CONVENING DATE.

BT

Figure 2-10. Sample NATOPS Convening Message

2.5.8 Conference Agenda

a. Agenda items shall be received by the model manager no later than 30 days prior to the conference convening date. Unless waived by the CNO NATOPS Coordinator, the NAVTACSUPPACT Changes Program shall be used to compile the conference agenda. (Waiver shall be obtained in writing from the CNO NATOPS Coordinator.) To facilitate this effort, proposed changes should be submitted to the model manager on magnetic media using the Changes Program.

b. The program manager shall compile and distribute the conference agenda no later than 20 days prior to the conference-convening date. Distribution shall include all addressees on the convening announcement and others as considered appropriate.

c. Agenda items received after the deadline shall be retained by the model manager. Time permitting, late items may be considered by the conference at the discretion of the program manager and the CNO NATOPS Coordinator.

2.5.9 Preliminary Conferences. Model managers should conduct preliminary conference(s) prior to the main review conference whenever appropriate. Preconferences may be useful in identifying technical support requirements and policy issues requiring resolution before the change recommendation can be considered at a review conference. Preconferences are also very useful in exploring new, controversial, and/or extensive issues, such as how new portions of the publication should be written or old parts rewritten and, who will write and chop the draft prior to the main review. Preconferences will not only prepare the participants so that they arrive at the main review conference with a more comprehensive understanding of the issues, but will also reduce the amount of time and work required to discuss and resolve the agenda items at the main conference.

2.5.10 Conduct of NATOPS Review Conferences

a. The NATOPS model manager's designated representative (normally the program manager) shall act as chairperson. The chairperson shall establish the work schedule based on the size and complexity of the agenda. Agenda items may be addressed in any logical sequence. The CNO NATOPS coordinator shall make the determination of any voting procedures other than those specified herein.

b. Minimum conference attendance shall include CNO NATOPS coordinator, cognizant command NATOPS coordinator, any advisory group member exercising operational control of the subject aircraft, COMNAVAIRSYSCOM, COMNAVSAFECEN and all NATOPS evaluation units for the subject aircraft. Additional attendees shall be invited by the Cognizant Command as indicated in the conference-convening message.

c. The voting members shall be limited to direct representatives of advisory group members, the model manager, and NATOPS evaluation units. Each voting command represented shall be limited to one vote and no individual shall have more than one vote. Designation of a representative from another command to vote and act for a voting member who cannot attend the review conference shall be done in writing. Votes may be cast in absentia only if made in writing.

d. Agenda items that involve changes to policy shall not be introduced at the conference if not provided to all voting members in sufficient time for staffing prior to the conference.

e. Discussion should be free and relatively informal. However, the chairperson shall exercise the authority to discontinue discussion when it is no longer profitable. He/she may call for a vote, defer the agenda item pending receipt of additional information, or refer it to a committee for further study. It is often advantageous to appoint committees to consider specific agenda items or to review supplementary publications such as classified supplements and checklists.

f. Careful planning by the program manager is the key to a successful and efficiently conducted conference. Physical arrangements must include sufficient space for joint sessions and for committee meetings as required. Appropriate reference material and extra copies of the publication(s) being reviewed should be available. Clerical assistance shall be provided by the model manager as required to maintain a daily record of NATOPS agenda items. (For in-production aircraft, these requirements are normally provided by the aircraft manufacturer when the conference is held at their facility.)

g. Advance change items shall be agreed upon by the conference voting membership. An advance change to a NATOPS publication is a change item approved by a NATOPS review conference that is of such urgency that it is issued immediately by CNO as an interim change.

Note

CNO NATOPS Coordinator will initiate the interim change message upon receipt of the review conference report.

2.5.10.1 Program Manager's Handbook. The program manager's handbook provides an in-depth discussion of the NATOPS Program and shall be thoroughly reviewed by the program manager prior to the convening of the conference. The handbook is distributed on the NTIC.

2.5.11 Conference Record. The model manager shall keep a comprehensive record of the conference agenda items discussed and the resulting decisions. Unless waived by the CNO NATOPS Coordinator, the NAVTACSUPPACT Changes Program (distributed on the NTIC) shall be used to compile the conference record. Handwritten change recommendation forms are not acceptable. Normally, for in-production aircraft, the contractor will record the results; however, the conference record is still the responsibility of the model manager. The record shall include:

a. An itemized list of the agenda items agreed upon discussed during the conference (both approved and disapproved), certified in writing by the CNO NATOPS Coordinator, the model manager or his appointed representative, and the cognizant command representative.

b. A list of outstanding action items. Open outstanding action items are conditionally approved agenda items lacking the essential data needed to be fully resolved by the conclusion of the review conference. Changes that require further approval that affect aircraft or auxiliary equipment operating limits, changes that would result in an appreciable increase in cost (such as the addition of new performance data or extensive art work), or changes known to be in conflict with an existing directive or publication issued by CNO, CMC, COMNAVAIRSYSCOM, or major fleet or aviation commands may be left as outstanding items. If doubt exists, the CNO NATOPS Coordinator will make the determination as to the requirement for further research and approval.

c. A joint memorandum listing the conference date and location, publications reviewed, and copy freeze date. A suggested format for the memorandum is available in the program manager's handbook. The copy freeze date is a deadline for submission of all outstanding change items to the model manager for further transfer to the activity responsible for producing the printer's copy. If there are no outstanding changes, the copy freeze date shall coincide with the last day of the conference.

d. A separate list of advance changes, as approved during the conference.

e. For each new publication, a recommended distribution list for that publication. Include each command, its appropriate attention code(s), and the desired quantity for each code.

2.5.12 Report of the NATOPS Review Conference

a. The model manager shall produce and distribute a report of the results of the NATOPS Review Conference. The report shall include:

(1) A list of attendees, commands represented, command addresses, DSN and commercial telephone numbers, and e-Mail addresses.

(2) A list of all approved conference agenda items, as listed in the comprehensive conference record.

(3) Those agenda items identified as advance changes.

(4) A list of any outstanding action items.

Note

Before the expiration of the copy freeze date, the program manager shall forward resolved outstanding action items to the organization tasked to produce the reproducible copy.

(5) A list of rejected and withdrawn agenda items and the corresponding reasons for the action.

b. As soon as possible, but no later than 60 days after the conference, the model manager shall forward the original report of the NATOPS Review Conference to the CNO NATOPS coordinator, with a copy to the cognizant command and to the organization tasked with preparing the reproducible copy of the revised publications. Distribution of the conference report shall not be delayed because of outstanding items. A sample letter of transmittal can be found in the Program Manager's Handbook. Additional copies of the conference report shall be forwarded to all concerned advisory

group members, major aviation commands employing the aircraft, COMNAVAIRSYSCOM, (Air-5.0F), NAVOPMEDINST, COMNAVSAFECEN (Code 10), COMNAVAIRWARCENACDIV, NAVTACSUPPACT (when responsible for producing the reproducible copy), and others as appropriate.

Note

When tasked to prepare the reproducible copy, NAVTACSUPPACT will receive two copies, since the CNO NATOPS coordinators is currently assigned to NAVTACSUPPACT (as Code 60).

c. Marked-up NATOPS publications indicating the exact location of approved changes shall be delivered to the organization tasked with preparing the reproducible copy.

d. No further changes or additions may be submitted after the conclusion of the conference except outstanding items. Outstanding items must be submitted to the program manager no later than the copy freeze date to ensure inclusion in the revision/change. Upon receipt of outstanding items after distribution of the conference report, the program manager shall forward copies of these items to all on the original distribution of the report.

e. If a model manager disagrees with a conference-approved agenda item, that item shall remain in the record as an approved change. The model manager shall identify the agenda item in the conference report letter and indicate the reason for objection. Within 30 days following the conclusion of the conference, the model manager shall also submit an Urgent Change Recommendation to resolve the item in question. Failure to submit the UCR constitutes a withdrawal of the objection. The change item in question shall not be incorporated into the publication until resolved.

2.5.13 Implementation of Approved Agenda Items. The agenda items approved at the review conference are approved for fleet-wide use but are not mandatory upon receipt of the conference record. Advance changes, however, are mandatory. Except in the case of advance changes, use of approved agenda items prior to receipt of the printed change or revision is at the discretion of the commanding officer.

2.5.14 Final Prepublication Review. The contractor or NAVTACSUPPACT will incorporate the conference-approved changes into the reproducible copy for the publication(s) from which the printer's negatives will be made. Following incorporation, the model manager and/or a designated representatives shall review the revised reproducible copy at the production site to e sure that the changes were incorporated into the pub cation(s) in the manner intended by the conference. This prepublication review shall be completed in an expeditious manner.

2.6 NATOPS EVALUATION PROCEDURES

2.6.1 General. The standard operating procedures prescribed in NATOPS manuals represent the optimum methods of operating various aircraft and related equipment. The NATOPS evaluation is intended to evaluate individual and unit compliance by observing and grading adherence to NATOPS procedures.

2.6.2 Definitions. The following definitions shall apply to the NATOPS evaluation program:

a. NATOPS Evaluation — An evaluation of individual pilot or crewmember standardization, consisting of an open book examination, a closed book examination, oral examination, and an evaluation flight.

b. Qualified — That degree of standardization demonstrated by a very reliable flight crewmember who has a good knowledge of standard operating pro dures and thorough understanding of aircra capabilities and limitations.

c. Conditionally Qualified — That degree of standardization demonstrated by a flight crewmember who meets the minimum acceptable standards. The individual is considered safe enough to fly as pilot in command or to perform normal duties without supervision, but more practice is needed to become Qualified.

d. Unqualified — That degree of standardization demonstrated by a flight crewmember who fails to meet minimum acceptable criteria. The individual should receive supervised instruction until the individual has achieved a grade of Qualified or Conditionally Qualified.

e. Area — A routine of preflight, flight, or postflight.

f. Subarea — A performance subdivision within an area that is observed and evaluated during an evaluation flight.

g. Critical Area/Critical Subarea — Any area subarea that covers items of significant importance

to the overall mission requirements or the marginal performance that would jeopardize safe conduct of the flight.

2.6.3 Implementation. The NATOPS evaluation program shall be carried out in every unit operating naval aircraft. Fleet readiness squadrons (FRS) shall ensure that pilots, NFOs, and aircrew members have successfully completed a NATOPS evaluation prior to their completion of the course of instruction. In instances where it is impractical to NATOPS-qualify such individuals, the formal course of replacement training shall be considered as having conditionally satisfied NATOPS requirements for a period of 1 year from the individual's completion date, provided that all required phases of instruction are completed. An entry shall be made in the individual's training jacket and log book stating that the individual is NATOPS Conditionally Qualified, utilizing a format similar to that shown in paragraph 2.6.7 of this chapter. Evaluations shall be administered to flightcrew personnel as follows:

a. Pilots (other than VP, VR, VQ, VAW, and HS), NFOs, and naval aircrewman	Within 6 months after reporting to a unit if not currently qualified in model.
b. Pilot (VP, VR, VQ, VAW, and HS)	Prior to advancing beyond third pilot or equivalent.
c. Aircrew candidates	Prior to designation as aircrew member.
d. All pilots, NFOs, and naval aircrewmen holding current evaluation in model aircraft	Renewal evaluation may be accomplished within 60 days preceding expiration of a current evaluation and is valid for 12 months from the last day of the month in which the current evaluation expires. Otherwise, NATOPS qualifications shall be valid for 12 months from the last day of the month in which the evaluation is flown.

2.6.4 Procedures. The following procedures shall be followed in implementing the NATOPS evaluation program:

a. The evaluation shall consist of a ground evaluation and an evaluation flight. At the discretion of the squadron or unit commanding officer, all or part of the flight should be simulated in a weapons system trainer (WST), operational flight trainer (OFT), or other suitable training device. Use of trainers is particularly encouraged for those simulated emergencies and/or scenarios that present significantly increased risk when performed in an aircraft. If no such device is available, the aircraft cockpit may be used. Evaluation flights in aircraft that require simulated emergencies should be avoided while deployed at sea.

Note

Commanding officers may extend the expiration date of all NATOPS qualifications that would otherwise expire during the last 90 days of a long deployment. NATOPS qualifications that are due to expire prior to the last 90 days of a long deployment should be renewed prior to deployment. The expiration date for the extension shall not be later than 90 days after return from deployment.

b. Evaluees who receive a grade of Unqualified on a ground or flight evaluation shall be allowed 30 days in which to complete a reevaluation. At the discretion of the commanding officer, the reevaluation need only consist of those areas/subareas in which a grade of Unqualified was assigned. A maximum of 60 days may elapse between commencement of the initial ground evaluation and the date the evaluation flight is satisfactorily completed. Type commanders may waive the time limitations under circumstances making compliance impracticable.

c. Disposition of evaluees who fail the reevaluation shall be in accordance with directives by the cognizant advisory group member.

d. An annual unit NATOPS evaluation shall be conducted by the appropriate NATOPS evaluator. It shall include one or more individual NATOPS evaluations for each crew position and be administered to flight crewmembers selected at random by the evaluator to measure overall adherence to NATOPS procedures. The evaluation may be conducted as a part of such inspections as ADMAT or ORE if so scheduled by the NATOPS coordinator. Normally, the unit commander alone shall be informed in writing of the results of the evaluations and the effectiveness of the NATOPS program within the command. In instances where an unsatisfactory level of unit adherence to NATOPS is uncovered, an appropriate description of the discrepancies shall be forwarded by the evaluator to

the appropriate type commander via the unit commander and normal chain of command.

e. While this instruction and the individual NATOPS publications establish standards for grading individual performance, they do not relieve the NATOPS evaluator or instructor from using sound judgment based upon knowledge and experience. The NATOPS evaluation flight is intended to measure performance with regard to knowledge of and adherence to prescribed procedures. Any tendency to extend the evaluation into the areas of pilot proficiency or weapons readiness must be avoided.

2.6.5 Ground Evaluation. Prior to commencing the evaluation flight, an evaluee must achieve a minimum grade of Qualified on the open-book and closed-book examinations. The oral examination is also part of the ground evaluation, but may be conducted as part of the flight evaluation. To assure a degree of standardization between units, the model manager shall prepare and maintain a bank of questions and answers for use by unit NATOPS instructors in preparing the written examinations. The areas to be evaluated in the ground phase shall be delineated in the individual aircraft model NATOPS manual.

a. Examinations — The maximum and minimum number of questions and the time limits for the written examinations shall be specified in the manual. The oral examinations may be conducted prior to or as part of the flight evaluation and should be based on selected general areas outlined in the NATOPS manual.

b. Grading Instructions — Examination grades shall be computed on a 4.00 scale and recorded in the appropriate column of the NATOPS Evaluation Report OPNAV 3710/7 (4-90).

(1) Open Book Examination — To obtain a grade of Qualified, an evaluee must obtain a minimum score of 3.5.

(2) Closed Book Examination — To obtain a grade of Qualified, an evaluee must obtain a minimum score of 3.3.

(3) Oral Examination — Questions may be taken from the NATOPS manual, question banks, or drawn from the experience of the instructor/evaluator. Such questions should be direct and positive and should in no way be opinionated. A grade of Qualified or Unqualified shall be assigned.

2.6.6 Evaluation Flight. The areas, subareas, critical areas, and critical subareas of an evaluation flight shall be specified in the NATOPS manual. It may conducted on any operational or training flight or it OFT. The following procedures shall be used in determining the final grade.

a. A grade of Unqualified in any critical area or critical subarea will result in an overall grade of Unqualified for the flight.

b. Evaluation flight (or area) grades shall be determined by assigning the following UQ (Unqualified), CQ (Conditionally Qualified), or Q (Qualified) for each subarea. All areas graded less than Q shall be justified in the evaluator's remarks. An overall grade of less than Q for the flight shall be justified in the evaluator's remarks.

c. Evaluation flights resulting in an overall grade of less than Q shall contain the unit commander's remarks concerning the qualifications of the NA/NFO evaluated.

d. Evaluation worksheets and kneepad worksheets contained in the applicable NATOPS manual shall be used during the evaluation flight.

2.6.7 Documentation/Record

a. The NATOPS evaluation report, OPNAV 3710/7 (3-95), shall be completed for each evaluation conducted and forwarded to the evaluee's commanding officer only. The report shall be filed in the individual's flight training jacket.

b. On the NATOPS evaluation report, commanding officers shall make remarks on the aviation skills and future potential of all pilots/NFOs. This responsibility shall not be delegated.

c. An entry shall be made in the pilot/NFO/enlisted aircrewmen flight logbook under "Qualifications and Achievements" as follows:

QUALIFICATION	
"NATOPS EVAL.	(AIRCRAFT MODEL)
"DATE"	
(CREW POSIT.)	(DATE)
"SIGNATURE"	
(Authenticating signature)	(Unit that administered evaluation)

2.6.8 Unit NATOPS Evaluation. An annual unit NATOPS evaluation shall be conducted by the appropriate NATOPS evaluator and shall follow the same procedures delineated in paragraphs 2.6.4 through 2.6.7. Additionally, the unit NATOPS evaluation shall be administered as follows:

a. It shall include one or more individual NATOPS evaluations for each crew position (ground evaluation and an evaluation flight) and be administered to flight crewmembers selected at random by the evaluator to measure overall adherence to NATOPS procedures.

b. The evaluation may be conducted as a part of such inspections as ADMAT or ORE if so scheduled by the NATOPS coordinator.

c. The unit commander alone shall be informed in writing of the results of the evaluations and the effectiveness of the NATOPS program within the command. In instances where an unsatisfactory level of unit adherence to NATOPS is uncovered, an appropriate description of the discrepancies shall be forwarded by the evaluator to the appropriate type commander via the unit commander and normal chain of command.

d. The 12-month evaluation cycle may be extended to 18 months by the NATOPS evaluator for circumstances such as extended deployments, and only for units whose previous evaluations indicated a high degree of NATOPS program effectiveness.

CHAPTER 3

Policy Guidance

3.1 POLICY CONCERNING USE OF AIRCRAFT

3.1.1 Special Policies

3.1.1.1 Emergency and Humanitarian Operations. Naval aircraft operations are authorized in emergencies such as forest fire prevention, search, rescue, major calamities, and for humanitarian reasons involving life-threatening circumstances. Notification of the operation shall be made to CNO or CMC, as appropriate, and the responsible local commander, but without delaying action when time is an essential factor.

3.1.1.2 Theater Indoctrination Training. Prior to operating at other than U.S. airports, commands/detachments shall receive specific training for the theater(s) in which the unit will operate. As a minimum, this training shall include a thorough review of theater-unique instrument requirements and procedures, the use of non-DOD instrument approach procedures, required instrumentation for specific approaches, theater weather, and local area procedures.

3.1.1.3 Special Airlift Requirements. Special airlifts shall meet the following requirements:

a. The sole purpose of the flight must be to provide air transportation for the accomplishment of urgent business in the national interest that would suffer if other forms of transportation were relied upon.

b. The flight must be in the national interest and result in cost savings to the Department of the Navy.

3.1.1.4 Assignment of Aircraft to Specific Individuals. Unless otherwise authorized by the Secretary of the Navy, no naval aircraft will be assigned to a specific individual nor shall any individual require a specific aircraft or aircraft crew be made available for exclusive use. This does not preclude the display of pilot and crew names on aircraft.

3.1.1.5 Flights Requested by Civilian Contractors. A civilian contractor's request to use naval aircraft for flight(s) not directly associated with the terms of their contract shall be referred to CNO (N880) for authorization.

3.1.1.6 Aircraft Performance Record Attempts

a. Proposed aircraft performance record attempts shall be submitted to CNO (N880) for consideration. Appropriate details, including predicted performance and estimates of results, shall be submitted.

b. The Director, Air Warfare Division, will take appropriate action to obtain the approval of the Assistant Secretary of Defense through the Office of Information and will obtain National Aeronautics Association sanction for the proposed record attempt(s).

3.1.1.7 Celebrations. Rules for participation of naval aircraft in celebrations are currently contained in SECNAVINST 5720.44, Department of the Navy Public Affairs Regulations.

3.1.1.8 Shipment Orders. Shipment orders specifying transfer by air or aircraft do not imply orders or authority for the indicated flight.

3.1.1.9 Travel Orders. This instruction does not grant authority to issue orders to personnel for travel where expenses for the personnel are involved. Such authority originates from instructions issued by the Bureau of Naval Personnel (BUPERS) or U.S. Marine Corps, as applicable.

3.1.1.10 Embarkation of Passengers

a. No person shall be enplaned as a passenger nor shall any cargo be embarked on a naval aircraft unless authorization has been granted by competent authority in accordance with applicable directives.

(See OPNAVINST 4630.25, paragraph 3.2 of this instruction, and NAVSUP Publication 505.) No person shall be carried in a taxiing aircraft as a passenger unless such person is authorized to fly in it or has been authorized by competent authority to be embarked therein.

b. Fleet Commanders in Chief; Commander in Chief, U.S. Naval Forces, Europe; and Chief of Naval Air Training may authorize air transportation via helicopter or carrier onboard delivery (COD) aircraft for civilian guests and other designated personnel not otherwise qualified for Government air transportation. Their authority may be delegated to numbered fleet commanders and type commanders and is granted for the specific purpose of facilitating embarkation/debarkation of these selected individuals when ships are at sea. It shall not be extended to include flights of convenience for the individual(s) concerned. Due consideration shall be given to the age and physiological characteristics of the individuals, particularly when catapult launchings or arrested landings are involved. (See paragraph 8.4.2 regarding aeromedical and survival training requirements for passengers.) Night overwater helicopter passenger flights to/from ships are prohibited except in cases of operational necessity. This does not preclude troop movement in support of amphibious exercises (operations) or special operations missions. COD overwater flights at night are authorized. The following restrictions apply when carrying passengers:

(1) CV/CVN launches and recoveries shall be made during daylight hours.

(2) CV/CVN launches shall be conducted not less than 60 minutes prior to sunset. This time constraint may be waived to 30 minutes by the battle group commander/officer in tactical command.

c. The pilots in command/mission commanders of a naval aircraft (while absent from home unit) may authorize air transportation for personnel and/or equipment not otherwise qualified for Government air transportation (i.e., civilian physicians, paramedic teams, sheriff department personnel, park rangers, search dogs, medical equipment, etc.) when required for the successful prosecution of a search and rescue (SAR), medical emergency evacuation (MEDEVAC), or disaster relief mission. This authority shall only be exercised when all practical means of obtaining authorization from competent authority in accordance with applicable directives (OPNAVINST 4630.25 and NAVSUP Publication 505) have proven unsuccessful or unavailable. Appropriate authority shall be notified of such air transportation as soon as practicable.

3.1.1.11 Flight Training. Flight training in Navy or Marine aircraft shall not be given to any individual without specific authorization of CNO or CMC.

3.1.1.12 Aircraft of Other Services. Naval aviators may fly aircraft of another service, provided the other service has no objection.

3.1.2 Nonessential Flights. The use of aircraft for nonessential flights shall not be authorized. Any flight open to misinterpretation by the public shall be avoided. Examples of flights that are considered nonessential are as follows:

a. Flights of a routine business nature for which commercial or other military transportation could be more economically substituted

b. Flights for any officer or group of officers, the sole purpose of which is the convenience and/or prestige of the officers concerned and not the performance of official duties or accomplishment of bona fide training

c. Repeated flights to the hometown area of flight personnel concerned

d. Flights coinciding with major sports events or civic celebrations.

3.1.3 Personnel Authorized To Pilot Naval Aircraft. When qualified in accordance with current directives, the following personnel may pilot Navy and Marine Corps aircraft.

Note

Requests for authorization required by the following subparagraphs shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

3.1.3.1 Regular and Reserve Personnel. Regular and Reserve personnel on active duty under appropriate orders to duty in a flying status including:

a. Naval aviators of the Navy and Marine Corps

b. Coast Guard aviators and aviation pilots

c. Students undergoing authorized courses of instruction in flight training

d. Rated pilots of the U.S. Air Force and U.S. Air Force Reserve

e. Army aviators

f. Rated pilots of the Air National Guard and National Guard.

3.1.3.2 Other Military Personnel

a. Naval aviators under the cognizance of COMNAVAIRESFOR or CG FOURTH MAW whose status as naval aviators has been confirmed by BUPERS or Headquarters, U.S. Marine Corps

b. Coast Guard aviators and aviation pilots of the Coast Guard Reserve whose status has been confirmed by the Commandant, U.S. Coast Guard

c. Naval, Marine Corps, and Coast Guard Reserve students undergoing authorized courses of instruction in flight training

d. Officers of the Naval and Marine Corps Reserve not designated as naval aviators, but specifically authorized to pilot aircraft by BUPERS or the Commandant, U.S. Marine Corps.

3.1.3.3 Civilian Aircraft Pilots. Civilian aircraft pilots are those employed in a flight status by agencies or departments of or contractors to the U.S. Government when such flights are in the interest of the U.S. Government and the pilots have been cleared by CNO. Authority is delegated to the Commander, Naval Air Systems Command, to approve flights in COMNAVAIRSYSCOM aircraft or in contractor custody. Contractor pilots are not permitted to fly aircraft aboard U.S. naval vessels or to perform public demonstrations in Navy aircraft without specific CNO approval. Contractor flight operations and pilot qualifications are governed by NAVAIRINST 3710.1. Flights in naval aircraft other than those in the custody of COMNAVAIRSYSCOM shall be approved by CNO.

3.1.3.4 Foreign Military Personnel. Subject to security provisions in existing directives, physically and professionally qualified personnel of foreign nations may be authorized to pilot naval aircraft as follows:

a. The reporting custodian may authorize exchange personnel or personnel attending naval aviation training programs to pilot naval aircraft. Pilot time is not to exceed 110 hours per year except when attached to an operating squadron or as necessary in connection with a course of instruction. Personnel in this category can be designated as pilot in command.

b. Except as indicated in the preceding paragraph, foreign pilots must be accompanied by a U.S. pilot in command. The latter shall exercise all responsibility of command set forth in this instruction. Requests for such operations shall be submitted to CNO (N889J) for approval.

c. All personnel shall meet the minimum NATOPS qualification for the model aircraft involved.

d. Authority is delegated to COMNAVAIRSYSCOM, to approve flights in COMNAVAIRSYSCOM aircraft or in contractor custody.

3.1.4 Personnel Authorized To Taxi Naval Aircraft

3.1.4.1 Fixed Wing. No one shall be permitted to taxi an aircraft except persons authorized to fly the aircraft or those specifically designated by their commanding officer as "taxi pilots" after appropriate training or checkout.

3.1.4.2 Helicopter. No one shall be permitted to taxi a helicopter except those persons who are authorized to fly helicopters.

3.1.4.3 Tilt-rotor. No one shall be permitted to taxi a tilt-rotor except those persons who are authorized to fly tilt-rotors.

3.1.5 Personnel Authorized To Perform Crew Duties in Naval Aircraft

Note

Requests for authorization required by the following subparagraphs shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

3.1.5.1 Military Personnel. Regular and Reserve military personnel under orders by competent authority to active duty or active duty for training who are qualified in accordance with current directives are authorized as flightcrew or flightcrew under training.

3.1.5.2 Civilian Personnel. DOD civilian employees and contractors to DOD may be authorized embarkation as project specialists or selected passengers

when required in conjunction with assigned duties or contractual responsibilities. Point-to-point transportation is not authorized under this paragraph. Authority to approve flights for civilian personnel is delegated to the Commandant of the Marine Corps; fleet commanders in chief; CINCUSNAVEUR; CNET; COMNAVAIRSYSCOM; and COMNAVRESFOR for aircraft under their respective control. This authority may be delegated to numbered fleet commanders and type commanders with operational/administrative control.

Note

Civilian personnel authorized in accordance with this paragraph shall comply with the aeromedical and survival training requirements set forth in paragraph 8.4.2 of this instruction. Contractor flightcrews governed by NAVAIRINST 3710.1 shall meet the requirements of that instruction.

3.1.5.3 Foreign Military Personnel. Subject to security provisions in existing directives, physically and professionally qualified personnel of foreign nations may be authorized to perform crew duties in naval aircraft that is in the best interest of official DOD business. Embarkation may be authorized for the purpose of performing a crew duty such as operating installed equipment or observing aircraft or crew performance. Foreign military personnel must possess proper base or installation visitation authorization.

3.1.5.4 Civilian Law Enforcement Officials (LEO). Embarkation of civilian LEOs is authorized for helicopters and nonejection seat aircraft. SECNAVINST 5820.7 provides specific guidance for authorized missions. Authority to approve flights for LEO personnel and responsibility for establishing operational procedures is delegated to Commandant of the Marine Corps; fleet commanders in chief; the CNET; COMNAVAIRSYSCOM; and COMNAVRESFOR for aircraft under their respective control. Authority to approve flights may be delegated to numbered fleet commanders and type commanders. Flight requests for high-performance, ejection seat aircraft shall be forwarded to CNO or CMC for approval.

Note

LEO personnel authorized in accordance with this paragraph should comply with the aeromedical and survival training requirements set forth in paragraph 8.4 of this instruction when time and facilities permit. The flight approval authority is authorized to waive paragraph 8.4 requirements. CNO (N88) shall be an information addressee on all such waiver requests and approvals.

3.2 ORIENTATION FLIGHTS

This section establishes policy, procedures, and approval authority for orientation flights and implements DOD guidance set forth in OPNAVINST 4630.25.

3.2.1 Purpose

a. Individuals are selected to participate in orientation flights for one of the following purposes:

(1) To familiarize them with an aircraft, its operation, capabilities, requirements, concept of employment, or limitations.

(2) To familiarize them with a base complex from the air for official purposes other than merely sightseeing or goodwill.

(3) To allow FAA personnel to perform official functions that require their infrequent embarkation on naval aircraft.

b. Orientation flights are typically one-time events for participants in a particular model aircraft. Orientation flight status shall not be used to circumvent normal training requirements for individuals required to fly multiple flights in naval aircraft. Orientation flights for midshipmen participating in official training programs may involve multiple flights.

3.2.2 Categories of Eligible Participants for Orientation Flight. Persons who may be authorized orientation flights include:

a. Active duty military personnel and DOD employees when flights would materially improve job performance and be in the best interest of the Navy and/or Marine Corps.

b. U.S. citizens who, because of position and contacts with various public organizations, can make positive contributions to public understanding of the roles and missions of the Navy and/or Marine Corps (e.g., persons affiliated with the news media entertainment personalities). Flights of this natu are designated public affairs orientation flights.

are designated public affairs orientation flights. Participants must be carefully selected to ensure that the greatest benefit to understanding Navy and/or Marine Corps missions can result from such flights. Individuals shall not be selected for public affairs orientation flights solely in an effort to engender goodwill or as a reward for unusual service to the Navy and/or Marine Corps.

c. Personnel who, because of their group affiliation, are authorized orientation flights by separate directives (e.g., Explorer Scouting Program Senior Explorers/leaders, Navy League Sea Cadets, Civil Air Patrol, Naval Academy Midshipmen, Reserve Officer Training Corps/Naval Reserve Junior Officer Training Corps (ROTC/ NJROTC) students), and other such groups as may be designated by CNO.

d. Federal Aviation Administration (FAA) employees under the following conditions:

(1) FAA employees engaged in flight-checking local military air traffic control procedures and facilities, navigational aids, communications and approach and departure procedures only when such flights are coordinated by the appropriate regional Navy Representative, FAA.

(2) FAA flight examiners engaged in the evaluation or examination of rated aircrew personnel of the Military Department for civil pilot, navigator, or engineer certificates or ratings.

(3) FAA employees participating in approved military familiarization flights under existing arrangements between the Navy and the FAA, if seating position permits direct monitoring of aircrew duties.

e. U.S. Ambassadors or their senior deputies, within overseas theaters, when invited by the overseas unified or component commander, when the commander determines that the orientation flight is primarily in support of the DOD mission.

f. Federal Government officials, foreign officials, and members of Congress and their staffs.

g. Foreign personnel, either military or civilian, who require orientation flights in military aircraft for scientific research, development, test, and evaluation (RDT&E) purposes and to support the military assistance program (MAP)/foreign military sales (FMS).

h. Foreign military personnel of nations participating in and during the course of bilateral or multinational operations or exercises. Flights may be by shore-based aircraft or may originate and/or terminate on board ship.

3.2.3 Flight Prerequisites

a. All personnel participating in orientation flights shall receive an appropriate physical screening or examination. The scope of this screening or examination shall be determined by the reporting custodian flight surgeon.

b. Personnel scheduled to fly an orientation flight in an aircraft with ejection seats and/or personal oxygen systems shall complete selected passenger water survival (N3) and physiology (NP3) training.

c. Personnel scheduled to fly an orientation flight in an aircraft without ejection seats and/or personal oxygen systems (excluding emergency oxygen systems) shall complete project specialist water survival (N4) and physiology (NP4) training.

d. Midshipmen participating in PROTRAMID or CORTRAMID orientation flights shall receive water survival (N2) and physiology (NP7) training.

e. VIPs shall complete water survival (N2) and aviation physiology (NP8) training.

f. Completion of water survival and physiology training is mandatory for all orientation flights passengers/selected passengers unless the individuals agree to participate in the flight without training and the training requirements are waived specifically by the approving authority. Waivers for selected passenger training will, in general, not be granted. CNO (N88) will be an information addressee on all waiver requests and approvals (except USMC).

g. Non-DOD personnel are required to sign an "Air Transportation Agreement," DD Form 1381, as set forth in Chapter 1 of enclosure (1) to OPNAVINST 4630.25 when the orientation flight originates in a foreign country. NATO member nation personnel are exempt from this requirement.

h. Prior to approval of flights by foreign nationals involving access to classified or controlled unclassified information, permission for the disclosure of such information shall be obtained from the CNO (N2) (Director of Naval Intelligence) in accordance with SECNAVINST 5510.34.

i. Parental/legal guardian approval in writing is required prior to participation in orientation flights for anyone under 18 years of age.

j. Passenger briefing:

(1) Passengers shall be briefed on any information that may be pertinent for passenger safety and comfort. Each item should be fully explained to avoid passenger apprehension or confusion.

(2) Passengers occupying flight personnel positions shall be briefed on procedures, controls, and instrumentation.

3.2.4 Flight Limitations

a. Only highly qualified flight personnel shall be selected to conduct orientation flights.

b. All orientation flights shall be conducted within the local flying area and terminate at the point of origin. Flights outside the local flying area may be approved if the specific mission of the orientation flight cannot be accomplished within the local flying area. FAA personnel may be enplaned on a noninterference basis in order to conduct aircrew examinations or participate in familiarization flights (as defined in paragraph 3.2.2d) for other than local flights within their own FAA region.

c. Orientation flights involving third-nation nationals into or over foreign countries will not be approved unless confirmation of entry and/or overflight clearance for such third-nation nationals has been received from the foreign government(s) concerned in accordance with the DMA Foreign Clearance Guide.

d. Except for flights with FAA personnel, orientation flights shall be performed only during daylight and with weather minimums equal to or better than VFR.

e. FAA examiners shall not be permitted to pilot an aircraft without an assigned Navy or Marine Corps pilot in command who shall exercise all responsibility of command set forth in this instruction.

f. Formation flying shall not be performed unless required for a specific purpose and authorized by the controlling custodian of the aircraft to be used.

g. Orientation flights in high-performance jet aircraft shall not be approved except when the specific aircraft utilized is integral to the orientation flig purpose.

h. Orientation flights operating from an aircraft carrier are not encouraged because of the extra hazards inherent in carrier operations. Such flights may be authorized if such experience is either necessary as part of a reporting or filming effort required for RDT&E, MAP, or FMS purposes or warranted within provisions of paragraph 3.2.2h. COD/VOD flights, used only as a means to embark or debark personnel at sea, are not orientation flights and are therefore exempt from the provisions of this paragraph.

i. An aircraft accepted into the naval inventory shall not be used for orientation flights by contractor flightcrews unless it has been provided to the contractor under a NAVAIRSYSCOM contract. The use of naval aircraft under lease to contractors for orientation flights is governed by terms of the lease agreement and may not be subject to the policy and procedures contained in this instruction.

j. Flights shall be conducted at no additional cost to the Government on a noninterference basis with operations and training unless a waiver is granted by the approving authority.

k. Orientation flights may not include those flights where a record attempt is made, a first flight is made on an aircraft just accepted into the inventory, a first flight over an isolated geographical area, or any other flight of a similar or special nature where abnormal conditions may exist.

l. Individuals occupying a seat with flight controls during orientation flights are permitted to fly the aircraft during noncritical phases of flight subject to Commanding Officer and pilot-in-command approval.

3.2.5 Approval Authority. Flight approval authority includes waiver authority for water survival and aviation physiology training. This waiver authority shall be applicable only for orientation flights. Letters or messages authorizing orientation flights and training waivers shall contain specific verbiage on what is being approved and waived. For all other water survival and aviation physiology waivers, Chapter 8 applies.

Note

Requests shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

a. Orientation flights which involve shipboard catapult launch and/or arrested landing require CNO (N88) approval.

b. Subject to the limitations in subparagraphs (1) through (4) for approval of certain types of orientation flights, the CMC; fleet CINCs; CINCUSNAVEUR; COMNAVAIRSYSCOM; CNET; and COMNAVRESFOR are authorized to approve orientation flights in aircraft under their respective operational control, and to act on requests for exceptions to the basic guidelines as set forth in the foregoing subparagraphs of this section. Delegation of approval authority to numbered fleet commanders type commanders (TYCOM) is authorized.

(1) Orientation flights for members of Congress or their staffs require prior concurrence from the Chief of Legislative Affairs.

(2) Retiring members of Congress and retiring congressional staff members may be flown on orientation flights aboard military aircraft only upon the written approval of the Assistant Secretary of Defense for Legislative Affairs.

(3) Public affairs orientation flights or orientation flights for public figures where the resulting presentation or publicity will receive national or international distribution or interest require prior concurrence from the Chief of Information (except flights approved under paragraph 3.2.5.c(3)).

(4) Orientation flights for U.S. Ambassadors or their senior deputies within overseas theaters must be approved by the theater unified or component commander.

(5) Authority is delineated in OPNAVINST 4630.25 concerning specific procedures for approval of flights requested for diverse groups such as ROTC students, NJROTC students, Explorer Scouting Program Senior Explorers and leaders, and the Civil Air Patrol. Any flights so approved shall be subject to the provisions of paragraphs 3.2.3 and 3.2.4.

c. To expedite action and simplify procedures for approving certain routine flights, further delegations of approval authority are contained in subparagraphs (1) through (7).

(1) Reporting custodians or higher authority for military personnel on active duty or on active duty for training only for orientation flights in aircraft not equipped with ejection seats and/or personal oxygen systems (excluding emergency oxygen systems).

(2) COMNAVAIRSYSCOM for flights in aircraft under NAVAIRSYSCOM controlling custody and those aircraft that have been ordered but not accepted by the Navy from a manufacturer.

(3) CNATRA for all news media personnel to be given orientation flights by the U.S. Navy Flight Demonstration Squadron (Blue Angels).

(4) CNATRA orientation flights for contract flight instructors, faculty members, NROTC students, and non-NROTC senior college students participating in the NROTC Aviation Indoctrination Program.

(5) Appropriate COMFAIR of flag rank; CNATRA; MARFORLANT; MARFORPAC; CG FOURTH MAW; COMNAVAIRESFOR; and their seniors in the chain of command for FAA air traffic control specialists and FAA examiners. CNATRA may delegate to reporting custodians the authority to approve requests for FAA examiner personnel to fly on local flights when engaged in the evaluation or examination of Naval Air Training Command (NATRACOM) military personnel.

(6) CNATRA or TYCOM for influential persons who have potential to directly influence local recruiting efforts. Commander, Navy Recruiting Command shall coordinate with appropriate authority for approval. A copy of approval letters shall be forwarded to CNO (N889J), CNET (T-25), CNATRA (N-33), and COMNAVSAFECEN (Code 11). Flights in high performance aircraft are not authorized.

(7) Task force commanders of flag rank within the numbered fleets or the fleet commander for foreign military personnel authorized under paragraph 3.2.2h.

3.3 FLIGHT DEMONSTRATIONS AND STATIC EXHIBITS

3.3.1 Naval Aircraft Participation. Participation of naval aircraft, other than the scheduled appearance of the flight demonstration squadron, in any flight or airborne display is discouraged and should be planned only in the most exceptional and carefully considered situations (e.g., occasional flights at unique aviation-related events and station open houses; however, does not include routine changes of command, sporting events, etc.). Static displays by naval aircraft at aviation events are encouraged within the limits of available resources. The approving command shall ensure that a safe, professional and appropriate event is conducted weighing the risks against the benefits of any airborne demonstration (to include demonstration parachute jumps). Approval authorities are required to ensure event coordinators obtain necessary FAA/ICAO waivers in a timely manner. SECNAVINST 5720.44 further discusses participation of naval aircraft at public and private gatherings.

3.3.2 Approval Authority. The Commandant of the Marine Corps; fleet CINCs; CINCUSNAVEUR; CNET; and COMNAVRESFOR may authorize flight demonstrations sponsored by respective subordinate commands and activities. Their authority may be delegated to numbered fleet, type, and Echelon 3 commanders.

3.3.3 Regulations. The following regulations apply to participation in flight demonstrations and static displays:

a. Flight personnel assigned to participate in flight demonstrations should be those with the maximum training and experience. No pilot shall be permitted to participate who has not currently demonstrated to the commanding officer's satisfaction complete familiarity with the flight characteristics by performing with precision and safety all maneuvers to be demonstrated.

b. No extra hazardous or unusual maneuvers shall be planned or permitted at the demonstration. Routine maneuvers shall not be conducted in a manner that could make them hazardous (i.e., at excessively low altitudes or with undue close interval between aircraft). Care shall be exercised in planning and conducting the demonstration to provide maximum safety to personnel and property in event of mishap. Any ordnance delivery or expenditure in connection with a demonstration ashore for nonmilitary personnel shall receive prior specific approval from the type commander concerned.

c. When deciding whether to allow public access to naval equipment, any probability of risk must be considered. Any doubt shall be resolved by limiting or denying public access and strictly enforcing the decision once it has been made.

d. Personnel assigned to aircraft static displays shall be selected for their maturity, appearance, personality, demonstrated soundness of judgment, and knowledge of equipment. Commanding officers shall ensure that the pilot in command is particularly sensitive to any hazards that the aircraft might present to an uninformed spectator.

e. The aircrew of an aircraft used for static display shall be in attendance at the aircraft and dressed in appropriate flight clothing at all times the public has access to the aircraft. They shall not only provide information but also separate the aircraft and public from each other.

f. The public shall be denied access to the interior of all aircraft employing ejection seats or other installed pyrotechnic devices that could cause injury.

g. Ancillary equipment (workstands, etc.) must be in good condition and suitable for the purpose for which use is intended. If in the case of workstands or platforms, sufficient aircrew or other competent supervisory personnel are not available to control spectator loading to safe limits, then access shall not be permitted.

h. Aircraft selected for static display shall be clean, well painted, and prepared for public inspection.

i. Coordination shall be achieved with air traffic control authorities exercising jurisdiction over the affected airspace.

3.3.4 Exception. The U.S. Navy Flight Demonstration Squadron, which is specially trained for such flight exhibitions, is not bound by paragraph 3.3, but will be employed in accordance with the instructions of CNATRA and the on-scene commander in each instance.

3.3.5 NATO Flight Demonstrations. Flight demonstrations (including parachutists) involving aircraft of more than one NATO nation shall be conducted in accordance with NATO Standardization Agreement (STANAG) 3533, *Safety Rules for Flying Displays.*

3.3.6 NATO Live Weapons Demonstrations. For NATO standardization and safety purposes, the rules and procedures for the planning and conduct of live air weapons demonstrations as specified in NATO

STANAG 3564FS, Rules for Live Weapons Demonstrations, shall be adhered to when the nation is either the operator of the weapon system or is responsible for the range on which the demonstration is being held.

3.4 EMPLOYMENT OF NAVAL AVIATORS BY CIVILIAN CONTRACTORS

Civilian contractors to the Federal Government cannot legally employ a naval officer on the active list to give flight demonstrations of aircraft intended for the United States Government.

3.5 COMMAND

A naval aircraft or formation of naval aircraft shall be flown under the command of a pilot in command, mission commander, or formation leader, as appropriate, and so designated by the reporting custodian or higher authority. The status of each individual participating in the mission or formation shall be clearly briefed and understood prior to takeoff and must be indicated as required by DOD FLIP General Planning. When a flight schedule is published, the pilot in command, mission commander, or formation leader shall be specifically designated for each aircraft or formation, as appropriate. Reporting custodians shall establish minimum requirements of initial qualification and requalifications for each model aircraft in their custody and for each flight phase and/or mission normal to the aircraft models (i.e., day solo, night solo, functional check, FCLP, air combat maneuvers (ACM), night combat air patrol (CAP), intercepts, airborne early warning (AEW), barriers, etc.). They shall be guided by the requirements of this instruction where applicable and by appropriate NATOPS manuals. Flight personnel meeting those requirements may be considered qualified in model and phase and are eligible for designation as pilot in command, mission commander, or formation leader for a specific mission.

3.5.1 Pilot in Command. Pilot in command refers to the pilot of an individual aircraft. The pilot in command is responsible for the safe, orderly flight of the aircraft and well-being of the crew. The pilot in command may also be the mission commander or formation leader when so designated. Pilot in command should not be confused with the various qualifications defined in Chapter 12. If there is no NATOPS manual for a particular model aircraft or if an existing manual fails to set forth specific initial qualifications and currency requirements, a pilot shall not be designated as pilot in command unless the pilot has made at least two takeoffs and landings and logged 5 hours of pilot time in the same model aircraft within the preceding 90 days. Also, lacking NATOPS guidance for a specific aircraft, 10 hours first pilot time in model is required for initial qualification. Pilots meeting the criteria may be considered qualified in model and phase and are then eligible for designation as pilot in command. In the absence of direct orders from higher authority cognizant of the mission, responsibility for starting or continuing a mission with respect to weather or any other condition affecting the safety of the aircraft rests with the pilot in command. The authority and responsibility of the pilot in command shall not be transferred during flight. It shall not be transferred to another individual except as required by emergency, operational necessity, or as directed by the commanding officer of the unit to which the aircraft is attached. The authority and responsibility of a pilot in command is independent of rank or seniority in relation to other persons participating in the mission or flight except for the following.

3.5.1.1 Officer in Tactical Command Embarked. Wing, group, or squadron commanders, if embarked on a mission involving aircraft of their command, retain full authority and responsibility regarding command, including the mission in which participating.

3.5.1.2 Flag or General Officer Embarked. The pilot in command of an aircraft with a flag or general officer eligible for command at sea or in the field embarked as a passenger shall be subject to the orders of such flag or general officer in accordance with U.S. Navy Regulations. When such an embarked passenger exercises authority to command the aircraft, that passenger thereby assumes full responsibility for the safe and orderly conduct of the flight. The embarked passenger shall give due consideration to the judgment of the pilot in command regarding items of flight safety such as hazardous weather and aircraft/crew limitations. Flying rule violations, accident reports, and any other actions arising out of the flight will be referred to the embarked passenger as the responsible commander of the aircraft.

Note

The provisions of paragraphs 3.5.1.1 and 3.5.1.2 shall not be used to circumvent normal NATOPS qualification procedures if the officer desires to physically pilot the aircraft. Flights that require a NATOPS-qualified crew shall not be physically piloted by any individual not so qualified; however, the flight may be directed by an officer in tactical command embarked who is not NATOPS-qualified.

3.5.1.3 Flight Control Station. The pilot in command shall occupy a flight control station during critical

phases of flight (i.e., takeoff, landing, formation flight, functional checkflight (FCF), degraded aircraft performance regimes, etc.).

3.5.2 Formation Leader. A formation of two or more naval aircraft shall be under the direction of a formation leader who is authorized to pilot naval aircraft. The formation leader may also be the mission commander when so designated. The status of each member of the formation shall be clearly briefed and understood prior to takeoff. The formation leader is responsible for the safe and orderly conduct of the formation.

3.5.3 Mission Commander. The mission commander shall be a properly qualified naval aviator or NFO designated by appropriate authority. The mission commander may exercise command over single naval aircraft or formations of naval aircraft. The mission commander shall be responsible for all phases of the assigned mission except those aspects of safety of flight that are related to the physical control of the aircraft and fall within the prerogatives of the pilot in command. Mission commander qualifications shall be outlined in appropriate NATOPS manuals. The mission commander shall direct a coordinated plan of action and be responsible for effectiveness of the mission.

3.5.4 Instructors. In those aviation commands where training is conducted, the commanding officer is authorized to designate highly qualified naval aviators and NFOs as instructors. Instructor duties shall be specifically delineated by the unit commanding officer (CO) in formal directives. The instructor will be charged with authority and responsibility to provide appropriate direction to students (naval aviation or NFO) to ensure safe and successful completion of each training mission. The exact function, authority, and responsibility of the individual flight instructor are dependent upon the training mission and the crew assigned as issued in approved training syllabuses. On those training missions where a pilot under instruction is the pilot in command, instructor guidance shall be advisory in nature and under no circumstance shall pilots in command be relieved of their authority and responsibility as outlined in paragraph 3.5.1. Termination of the training or evaluation portions of the flight for reasons of safety, unsatisfactory performance, or material discrepancy shall be the instructor's prerogative.

3.6 AIRCREW COORDINATION

The objective of the Aircrew Coordination Training (ACT) Program is to integrate the instruction of specifically defined behavioral skills throughout Navy and Marine Corps aviation training, and to integrate the effective application of these behavioral skills into operational aviation procedures wherever appropriate ACT will increase mission effectiveness, minimize crew preventable error, maximize aircrew coordination, and optimize risk management.

Commanders shall ensure that all personnel whose duties involve flying as an aircrew member in naval aircraft receiver ACT. ACT shall be conducted annually in accordance with OPNAVINST 1542.7A, including an academic portion and a flight/simulator evaluation. Annual recurrency training shall be recorded in the NATOPS jacket, on form OPNAV 3760/32 in Section III, Part A.

3.6.1 Critical Behavioral Skills. The critical behavioral skills which form the basis of ACT are:

a. Decisionmaking — The ability to choose a course of action using logical and sound judgment based on available information. Effective decisionmaking requires:

(1) Assessing the situation

(2) Verifying information

(3) Identifying solutions

(4) Anticipating decision consequences

(5) Making the decision

(6) Telling others of the decision and rationale

(7) Evaluating the decision.

b. Assertiveness — An individual's willingness to actively participate, state, and maintain a position, until convinced by the facts that other options are better. Assertiveness is respectful and professional, used to resolve problems appropriately, and to improve mission effectiveness and safety.

c. Mission Analysis — The ability to develop short-term, long-term, and contingency plans and to coordinate, allocate, and monitor crew and aircraft resources. Effective planning leads to flight conduct that removes uncertainty, increases mission effectiveness, and enhances safety.

d. Communication — The ability to clearly and accurately send and acknowledge information, instructions, or commands, and provide useful feedback.

Effective communication is vital to ensure that all crewmembers understand aircraft and mission status.

e. Leadership — The ability to direct and coordinate the activities of other crewmembers or wingmen, and to encourage the crew to work together as a team. There are two types of leadership:

(1) Designated Leadership — Leadership by authority, crew position, rank, or title. This is the normal mode of leadership.

(2) Functional Leadership — Leadership by knowledge or expertise. Functional leadership is temporary and allows the most qualified individual to take charge of the situation.

f. Adaptability/Flexibility — The ability to alter a course of action based on new information, maintain constructive behavior under pressure, and adapt to internal and external environmental changes. The success of a mission depends upon the the crews ability to alter behavior and dynamically manage crew resources to meet situational demands.

g. Situational Awareness — The degree of accuracy by which one's perception of the current environment mirrors reality. Maintaining a high level of situational awareness will better prepare crews to respond to unexpected situations.

3.6.2 Loss of Aircrew Coordination. The loss of aircrew coordination often results in one or more of the following manifestations:

a. Fixation on one task to the detriment of others

b. Confusion

c. Violation of NATOPS/flight minimums

d. Violation of SOP

e. No one in charge

f. No lookout doctrine

g. Failure to meet mission/planning milestone

h. Absence of communication.

3.6.3 Enhancing Aircrew Coordination. To enhance aircrew coordination awareness and standardization, ACT Curriculum model managers and NATOPS model managers shall coordinate to monitor the practice of ACT behaviors in all phases of flight.

3.7 OPERATIONAL-RISK MANAGEMENT

Operational-Risk Management (ORM) is a systematic, decisionmaking process used to identify and manage hazards that endanger naval resources. ORM is a tool used to make informed decisions by providing the best baseline of knowledge and experience available. Its purpose is to increase operational readiness by anticipating hazards and reducing the potential for loss, thereby increasing the probability for success to gain the competitive advantage in combat. ORM is not just related to naval aviation; it applies across the warfighting spectrum.

3.7.1 ORM Process Description

a. ORM employs a five-step process:

(1) Identify hazards

(2) Assess hazards

(3) Make risk decisions

(4) Implement controls

(5) Supervise.

b. The ORM process is utilized on three levels based upon time and assets available.

(1) Time-critical: A quick mental review of the five-step process when time does not allow for any more (i.e. in-flight mission/situation changes).

(2) Deliberate: Experience and brainstorming are used to identify hazards and is best done in groups (i.e. aircraft moves, fly on/off).

(3) In-depth: More substantial tools are used to thoroughly study the hazards and their associated risk in complex operations (i.e., Weapons Det).

c. The ORM process is guided by the four principles:

(1) Accept risk when benefits outweigh the costs

(2) Accept no unnecessary risk

(3) Anticipate and manage risk by planning

(4) Make risk decisions at the right level.

3.7.2 Enhancing ORM. To enhance ORM awareness and standardization, the NATOPS model manager shall incorporate risk management concepts and wording into crew coordination and flight planning sections of the individual aircraft NATOPS manuals.

3.8 FUNCTIONAL CHECKFLIGHTS

The requirements for functional checkflights are stated in OPNAVINST 4790.2. CO's shall ensure compliance with the following.

3.8.1 Crew Composition. Functional checkflights shall be conducted with the minimum crew required for safe flight. All flight personnel shall be fully qualified in accordance with this instruction and the applicable NATOPS manual. Appropriate maintenance quality assurance and project specialist personnel required to accomplish the functional check may be utilized, provided they meet minimum aviation physiology and water survival training requirements. Passengers shall not be carried. The pilot in command shall be designated in writing by the CO as a functional check pilot for either a full-system check or the partial system(s) to be checked.

3.8.2 Weather Criteria. Functional checkflights should be conducted during daylight hours within the local flying area in VMC and under VFR. If necessary to accomplish the assigned mission, unit commanders may authorize checkflights under conditions other than the above if in their opinion the flight can be conducted with an acceptable margin of safety under the existing conditions. The authority shall not be delegated. Those portions of the flights that are considered critical shall be conducted in the vicinity of a suitable landing area.

3.9 REPORTING AND RECORDING OF DEVIATIONS AND VIOLATIONS OF FLYING REGULATIONS AND MISHAP INFORMATION

This section details the procedures for alleged violations of service or Federal flying regulations. Generally, commanders or commanding officers will receive notification of an alleged deviation by a member of their command via a copy of FAA 8020-11, Federal Aviation Administration Incident Report. Paragraph 3.8.6 delineates the responsibility of the command for flight incidents. Reports of alleged violations received from the Federal Aviation Administration will be forwarded to CNO (N885F) and will be processed as a major infraction. Major infractions are those that have general public, Congressional, or service interest (i.e., any infraction that cannot be resolved administratively at the command level).

3.9.1 Reports of Investigations of Violations of Flying Regulations

3.9.1.1 Responsibility. An alleged violation of flying regulations falls within the purview of U.S. Navy regulations. The responsibility to conduct the investigation into an alleged flight violation belongs to the immediate superior in the chain of command of the individual involved. However, activities whose base facilities and/or aircraft are used by pilots not attached to those activities are responsible for conducting the investigation and for notifying the commanding officer of the individual involved.

3.9.1.2 Procedures. Investigation and reporting procedures shall be in JAGMAN format using the guidelines and rules contained in JAGINST 5800.7, Manual of the Judge Advocate General. Each fact must be supported by testimony, documentary, or real evidence. Statements of the pilots concerned should be included along with maintenance action forms, flight schedules, and other documentary evidence. The report of violation of flying regulations is administrative in nature, and statements taken thereunder may not be the basis of subsequent legal or disciplinary proceeding unless the provisions of Uniform Code of Military Justice (UCMJ) Article 31 have been observed.

3.9.1.3 Intent. Lack of intent does not in itself constitute absence of culpability. One can be so "grossly negligent as to equate omission with commission." The question is whether the pilot in command or the formation leader could reasonably have been expected to avoid the violation.

3.9.1.4 Content of Report. In making a report of an alleged violation of flying regulations, the commanding officer shall state a conclusion as to whether the alleged violation actually occurred, and if so:

a. A conclusion as to whether or not the pilot in command was culpable in the light of pilot responsibilities and any mitigating or extenuating circumstances that may have existed.

b. Any action taken, pending, or recommended.

Note

The authority to issue a flight violation lies solely with the CNO.

3.9.1.5 Forwarding of Report. With the exception of alleged air defense identification zone (ADIZ) violations, reports regarding naval personnel shall be forwarded to CNO (N885F) via the chain of command. Alleged flight violations involving USMC personnel shall be forwarded through CMC (ASM) prior to final processing by CNO (N885F). Each endorser shall indicate concurrence/nonconcurrence with the commanding officer's report. Under no circumstances shall a report of investigation be released to any agency outside the Navy without prior approval of CNO (N88). Direct communication with commands (activities/agencies) outside the naval service in connection with violations shall be limited to that authorized in the basic instruction.

3.9.1.6 Time Limits on Action of Each Report of Investigation

a. To expedite action on a report of an investigation of an alleged violation, investigation by military agencies are limited as follows:

(1) By the investigating unit — Within 14 duty days from time of receipt.

(2) By each intermediate command — Within 7 duty days from time of receipt.

b. Each report will reach the appropriate final addressee within 60 days except in the following cases:

(1) When a commander cannot complete an investigation within the above time schedule, the commander will notify the final addressee of the reason for the delay and give an estimate of when the investigation will be forwarded.

(2) When Field Naval Aviator Evaluation Board (FNAEB) or Field Flight Performance Board (FFPB) proceedings are involved, the commander will be governed by current regulations (NAVMILPERSMAN ART. 3410300) or Marine Corps Order 1000.6 (ACTS) Manual as appropriate. Inform CNO (N885). An FNAEB or FFPB does not relieve the command of the requirement to conduct a JAGMAN investigation.

(3) When a commander takes UCMJ action as a result of a flying violation, the commander will promptly forward the report of investigation and inform the final addressee of any pending action. An officer who exercises general court-martial jurisdiction will inform the final addressee of the final appellate action taken in each general and special court-martial case involving a violation of flying regulations.

c. The final addressee for flight violation processing is CNO (N885F).

3.9.2 FAA Reports and Cooperation. When requested to do so by FAA, commands:

a. Shall not release the names of the aircrew; names are to be released only by CNO.

b. May furnish only factual information (excluding aircrew names) that would normally be available to air traffic facilities; this response shall not contain any conjectures, assumptions, or hearsay.

Note

Each command shall ensure that all attached/assigned aircrew and air operations personnel understand that:

(1) They may make oral or written statements to FAA personnel, but that such a statement is voluntary and may be used against the individual making the statement.

(2) Reports required by Part 91 of the FARs are mandatory; they are not included in the foregoing policy.

3.9.3 Applicability of Flying Regulations Other Than Naval. Pilots flying naval aircraft are responsible for compliance with flying regulations of other agencies, military or civil, only to the extent specifically provided by OPNAV directives (see paragraphs 1.2.4 and 1.2.5).

3.9.4 Alleged Air Defense Identification Zone Violations. Commanders receiving a report of an alleged ADIZ violation will investigate the report promptly. Results of such an investigation will be forwarded to the immediate superior. Reports shall contain the following:

a. Conclusions

b. The action(s) taken or recommended to prevent a recurrence

c. The nature of any disciplinary action taken.

3.9.5 Flight Personnel Training/Qualification Jacket Entry/Aviators Flight Log Book Entry. An entry of a violation into Flight Personnel Training/ Qualification Jacket and Aviators Flight Log Book will be made at the sole direction of CNO and will be made in accordance with paragraph 10.5.2 and Appendix A. Care shall be exercised to avoid the use of information from aircraft mishap board members, mishap reports, and endorsements, including the COMNAVSAFECEN endorsement, as a basis for the entries.

3.9.6 Incident Reports

a. Pilots in command and local commanders will ensure that deviations from control and separation requirements specified in paragraph 6.4, which result because of emergency or operational necessity, are reported to FAA immediately.

b. Incident reports (FAA 8020-11) are sent from FAA to the Department of the Navy Representatives (NAVREPs). The NAVREPs shall forward the reports to the appropriate commands for information.

c. Subsequent FAA investigation of flight incidents may reveal that the deviation involved a violation of the FARs. If a violation is found, the incident is further processed as an alleged flight violation and FAA's investigation is sent to CNO for processing in accordance with paragraph 3.8.1. Because of the lengthy FAA investigative process, as much as a 1-year delay may occur before the responsible naval commands receive notification of an alleged flight violation. Because of such delays, commands are advised to make and retain statements concerning incidents in the event the incidents are subsequently processed as flight violations.

3.10 CROSS-COUNTRY PLANNING

3.10.1 Cross-Country Flight. A cross-country flight is any flight that either does not remain in the local flying area or remains in the local flying area and terminates at a facility other than an active military facility. This includes "out and ins." COs must ensure that these flights contribute to the mission of the command and the naval service, achieve training requirements, and can be completed safely. Commanders/COs shall ensure a thorough risk assessment has been conducted for the proposed cross-country flight. The following preflight planning checklist provides additional factors which should be considered by the approving authority. These risk considerations are not intended to impose unnecessary restrictions on those flights that are deemed necessary for the training and experience of aviators/aircrew or those evolutions which contribute to the missions of the naval service.

a. Does the cross-country flight achieve training objectives as established in a training syllabus or training/readiness matrix?

b. Does the flight contribute to the mission of the command or the naval service?

c. Could this flight be perceived by the public as not in the best interest of the U.S. Government?

d. If the flight is exclusively for the transportation of the aircrew, is the purpose to meet operational commitments? If so, is alternate transportation, commercial or military, readily available? More economical?

e. Is this flight planned exclusively for the convenience and/or to enhance the prestige of the officers concerned?

f. Is there a major sporting or civic event scheduled at the destination? Cross-country flights are not authorized to these destinations.

g. Is the cross-country destination the home to of any of the crewmembers? A flight to one's ho town is legal, provided repeated flight are not performed. Is there a personal event such as a wedding, family reunion, graduation, etc., that a member of the flight is trying to attend? Is it in the home town of anyone on the aircraft or a destination that has been repeatedly flown to by the aircrew?

h. Has the aircrew thoroughly planned all aspects of the flight? Are they qualified and properly designated to conduct the flight?

i. Is proper security for the aircraft adequate at the intended destination? The alternate?

j. Does the flight meet squadron, wing, and TYCOM directives?

k. Have adequate maintenance precautions been planned to ensure proper servicing and maintenance of the aircraft is performed?

3.10.2 Risk Assessment. The above checklist is derived from policy guidance contained in other sections of this manual. This list is not all-inclusive, since it does not cover unique risk factors determined by

squadron mission, employment, operating environment, geographical location, aircraft type, model, series, and aircrew personal factors. However, it should provide a starting point for conducting a thorough risk assessment of each intended flight. The CO's written authorization and the signature of the pilot in command on the flight plan indicate that a thorough risk assessment has been conducted.

3.10.3 Implementation. This guidance is not intended to reduce the frequency and/or value of a unique and productive training opportunity, nor is it intended as a substitute for thorough planning, sound airmanship, and good headwork. Type, wing, and squadron commanders shall ensure appropriate procedures are in place for consistent implementation and monitoring of full compliance with this guidance.

3.11 TERMINAL INSTRUMENT PROCEDURES

3.11.1 General. Aircrews flying passenger and troop-carrying aircraft shall not fly an instrument approach that has not been validated as safe and accurate in accordance with either U.S. TERPS — FAA order 6260.3 (OPNAVINST 3722.16C (NOTAL)), ICAO Procedures for Air Navigation Services — Aircraft Operations (PANSOPS), or NATO Criterion for the Preparation of Instrument Approach and Departure Procedures (APATC-1).

3.11.2 U.S. Civil Airports. Activities or commands having a requirement for instrument procedures to civil airports in the U.S. that are not published in the DOD FLIP Terminal Procedures shall submit a request for the procedure(s) desired, with justification, through the type commander to NAVFIG for publication. The justification will include a statement indicating that the procedure is needed to support an operational or contingency requirement and the expected annual usage of the procedure. NAVFIG address is contained in DOD FLIP General Planning, Chapter 11.

All FAA-approved civil instrument departures and arrivals for the U.S. are published through NOS. They are not published in the DOD FLIP.

3.11.3 Other Than U.S. Airports. Activities or commands having a requirement for terminal instrument procedures to airports in areas other than the U.S. that are not published in DOD FLIP, not validated by NAVFIG or by other service components as conforming to U.S. TERPS, ICAO (PANS-OPS), or NATO (APATC-1), shall coordinate their requirements with the appropriate type commander. The request shall be forwarded with justification to NAVFIG. Such requests should designate the specific host government procedure desired and should also indicate concurrence of the appropriate type commander.

3.11.4 Conformance to TERPs. NAVFIG shall evaluate all such requests, review procedures (other than those approved by the FAA) for conformance with TERPs, and arrange for publication of the procedure in the appropriate FLIP. Instrument approach minimums published in FLIP shall be those specified by TERPs criteria application or the host government minimums, whichever are higher.

3.11.5 Annual Revalidation. In order that FLIP terminal publications contain only those procedures for which an operational or contingency requirement exists, originating activities shall annually revalidate their requirement for procedures published pursuant to this paragraph. This will be accomplished by direct coordination between the establishing activity or command and NAVFIG.

CHAPTER 4

Flight Authorization, Planning, and Approval

4.1 FLIGHT AUTHORIZATION

4.1.1 Authority. Naval aircraft shall not be flown by any person unless authorized by the reporting custodian or other commander exercising operational control over the aircraft concerned. All flights shall be in the national interest with fleet readiness receiving the highest priority. Efficient utilization of aircraft and available funds is the responsibility of the reporting custodian.

4.1.2 Documentation. Authorization for a flight shall be documented by a published flight schedule or other similar directive signed by COs or their delegated authority. As a minimum, the document shall contain the following elements:

a. Names and flight function of all flight personnel

b. Designation of the pilot in command, mission commander, and/or formation leader as appropriate

c. Chain of command for formation flights in the event of an abort by the designated flight leader

d. Aircraft model assigned

e. Total mission or requirement code

f. Point of departure, destination, and en route stopover points

g. Date and estimated time of departure (ETD)

h. Estimated time en route (ETE) or estimated time of arrival (ETA).

Note

For missions such as strip alert, SAR alert, etc., the words "as directed" or "to be assigned (TBA)" may be entered for ETD and ETE/ETA.

4.1.3 Flightcrew Requirements. Prior to authorizing flight in naval aircraft, commanders shall ensure that the person designated as pilot in command is in all respects qualified for flight in model and that minimum flightcrew requirements are met.

4.2 MINIMUM FLIGHTCREW REQUIREMENTS

The minimum flightcrew requirements for naval aircraft are set forth in the applicable NATOPS manual for individual aircraft models. The CNATRA may modify such requirements and the requirements set forth below as necessary for training purposes.

4.2.1 Aircraft Commander Requirement. An aircraft commander (paragraph 12.2.2.3) shall be designated for the following multipiloted aircraft missions:

a. Operational/tactical missions

b. Administrative missions in helicopters/tilt-rotors

c. Training flights, except those that are within the capabilities of pilots of lower classification and which, in the opinion of the commanding officer, are best suited to teach such pilots self-reliance and command responsibility

d. Flights in which the transport of passengers is involved.

4.2.2. Insufficient NATOPS Guidance. Where individual NATOPS manual guidance is lacking, the minimum flightcrew requirements for multipiloted aircraft are as follows:

a. A pilot in command possessing a valid instrument rating designated in accordance with paragraph 3.5.

b. A copilot qualified to perform all the assist functions required for the flight conditions and mission. If passengers are embarked, the copilot shall be qualified in model.

c. Other flightcrew necessary for the safe conduct of the flight.

4.2.3 Helicopters Not Requiring a Copilot. For helicopters that are configured with either dual- or single-flight controls but do not require a copilot, the minimum crew requirements will be specified in the appropriate NATOPS manual. If a lookout is required, the lookout will be capable of performing internal communication and all assist functions required for the mission. The designation of the pilot in command shall be pilot qualified in model (PQM).

4.2.4 Use of Lookouts. Use of a qualified lookout in lieu of a copilot for those aircraft specified in paragraph 4.2.3 shall be limited to flights conducted under VMC.

4.2.5 Rescue Helicopters Operating Over Water. Any naval helicopter that is assigned the primary mission to operate as a rescue vehicle over water shall have as a member of its crew one aircrewman who is completely outfitted for water entry as required in paragraph 8.2.1.2 and has completed an approved CNO/CMC rescue swimmers school.

Note

Where SAR/plane guard is briefed as a primary mission, or when it becomes the primary mission, the rescue air crewman shall be prepared for immediate water entry.

4.3 FLIGHT PLANNING

4.3.1 Preflight Planning. Before commencing a flight, the pilot in command shall be familiar with all available information appropriate to the intended operation. Such information should include but is not limited to available weather reports and forecasts, NOTAMs, fuel requirements, terminal instrument procedures (to include proper use of non-DOD approaches), alternatives available if the flight cannot be completed as planned, and any anticipated traffic delays. In addition, the pilot in command and mission commander (when there is one designated) shall conduct a risk assessment prior to the flight.

4.4 AUTHORIZED AIRFIELDS

4.4.1 Aircraft Operations

4.4.1.1 General. The intent of this section is to encourage the use of military airfields by Navy and Marine Corps aircraft unless a requirement exists to use a civil airfield. Pilots shall not be cleared for airfields other than those listed in the DOD Flip Enroute Supplement unless such flights are necessary for the accomplishment of a mission assigned by higher authority. The pilot in command is responsible for ensuring that airfield facilities, servicing, and security are adequate for the type of aircraft involved.

4.4.1.2 Exceptions. All naval aircraft operating in CONUS are prohibited from landing at or taking off from civil airfields listed in the DOD FLIP Enroute Supplement. Exceptions to this prohibition are as follows:

a. Civil airfields on which military units operate aircraft.

b. Flights requiring a weather alternate may use civil airfields when military airfields are not available.

c. Flights that conduct official business at or near a civil airfield. Written orders are not required.

d. Flights required for procurement, acceptance, modification, test, and delivery of aircraft. Ferry flights are included in this category to allow necessary flexibility to accomplish the ferry mission.

e. Flights necessary for the accomplishment of a unit's mission, providing prior coordination has been effected with the civil airfield authorities and the TYCOM has granted waivers to permit the use of the airfield.

f. Transport, turboprop training command aircraft, patrol class aircraft, and helicopters.

g. Civil airfields may be used for instrument-approach and low-approach training.

4.4.1.3 Closed Airfields. All naval aircraft are prohibited from taking off or landing at closed airfields except in the case of an emergency or under the following conditions. A takeoff and/or a landing may be conducted at a closed airfield when the tower and

crash crew are unmanned with the authorization of the commanding officer of the airfield concerned and with the prior or concurrent approval of the aircraft's reporting custodian.

4.4.2 Helicopter, Tilt-Rotor, and VSTOL/STOL Landing Areas. Helicopter, tilt-rotor, and VSTOL/STOL aircraft are authorized to land at other than airfield locations (such as fields, highways, and parks), provided:

a. A military requirement exists for such landing.

b. Adequate safeguards are taken to permit safe landing and takeoff operations without hazard to people or property.

c. There are no legal objections to landing at such nonairfield sites.

Note

COs are authorized to waive the provisions in items a through c when dispatched helicopter or VSTOL aircraft is engaged in SAR operations.

4.4.3 Fuel Purchase. Aircraft fuel and oil are made available to military users through military, Government contract, and commercial sources. There is no economical justification for pilots to purchase fuel/oil from commercial sources. The cost of such fuel is considerably higher than that purchased from either military or contract sources. Navy and Marine Corps flight personnel are not authorized to purchase aircraft fuel/oil from other than military or contract sources except under the following circumstances:

a. Flight is classified as official business.

b. Flight is terminated as a result of a bona fide emergency.

c. Flight terminates at alternate airport in lieu of filed destination.

d. Flight is made by aircraft with limited range and purchase of aircraft fuel or oil from other than military or contract (Government) sources is necessary to complete the assigned mission.

4.4.4 Flight Plans

4.4.4.1 General. A flight plan appropriate for the intended operation shall be submitted to the local air traffic control facility for all flights of naval aircraft except the following:

a. Flights of operational necessity.

b. Student training flights under the cognizance of CNATRA conducted within authorized training areas. CNATRA shall institute measures to provide adequate flight following service.

4.4.4.2 Forwarding Flight Plans to ARTCC/Flight Service Station (FSS). Delivery of a properly prepared flightplan form to duty personnel at an established base operations office at the point of departure assures that the appropriate ARTCC/FSS will be furnished with:

a. Essential elements of the flight plan as initially approved

b. A takeoff report.

4.4.4.3 No Communication Link. If no communication link exists between the point of departure and the ARTCC/FSS, the pilot may relay the flight plan to an appropriate FSS by commercial telephone. When unable to file in person or by telephone, the flight plan may be filed as soon as possible by radio after takeoff. Flight in controlled airspace in IMC without ATC clearance is prohibited. Filing by radio after takeoff is not permitted when it will involve unauthorized IMC flight. In any case, the pilot's responsibility is not fulfilled until a completed flight plan and passenger manifest have been deposited with the airport manager or other suitable person.

4.4.4.4 Direct User Access Terminal Service (DUAT). DUAT is not intended to provide flight-plan service to the military and, therefore, is not designed to format the flight notification messages mandated for the military user or for any aircraft filing to a military destination. DUAT shall not be used to file a flight plan to a military destination.

4.4.4.5 Flight Plan Forms. The forms listed below are used to submit flight plans in the circumstances indicated:

a. The DD 175, military flight plan, completed in accordance with FLIP General Planning, is used for other than local flights originating from airfields in the United States at which a military operations department is located (see FAR 91.153 and 91.169 for mandatory items). A daily schedule containing an approved stereo (ARTCC computer stored)/canned flight plan code may be used in lieu of a DD-175 for other than local flights provided the point of departure is a military facility and the stereo/canned flight plan conforms to agreements with the parent ARTCC.

b. A daily schedule or abbreviated single-copy DD-175 may be authorized by the approval authority for use when the flight will be conducted within the established local flying area and adjacent offshore operating/training areas provided that:

(1) Sufficient information relative to the flight is included to satisfy the needs of the local ATC/FSS facility that guards the flight.

(2) Facility operations maintain cognizance of each flight plan and are responsible for initiating any overdue action or issuing in-flight advisory messages as specified for handling point-to-point flight plan messages in accordance with FAA 7110.10. Termination of local flights at facilities other than the point of departure is authorized only in those cases where local flight plans may be closed out by direct station-to-station communication.

(3) Completed flight schedules are retained in operations files for 3 months.

(4) The flight shall not be conducted in IMC within controlled airspace except as jointly agreed to by the local naval command and the responsible air traffic control agency. When making such agreements, naval commands shall ensure that they do not conflict with policies and directives established by CNO.

(5) When an abbreviated DD-175 is utilized, items 1, 2, 3, 4, 6, 7, 9, 10, 11, 12, 20, 21, 24, and 25 of the flight plan (see FLIP general planning) shall be completed as a minimum. For VFR flights within the local flying area, the term "local" may be entered as "route of flight" (item 9). For day VFR and IFR flights that penetrate or operate within an ADIZ (unless an authorized exception — see FLIP (En Route) IFR Supplement), the estimated time and point of penetration(s) shall be entered in the "remarks" (item 12).

c. An FAA flight plan, FAA 7233-1, may be filed in lieu of a DD-175 at airfields in the United States at which a military operations department is not located.

d. An ICAO flight plan or military version thereof is used when applicable for flights conducted in international airspace in accordance with ICAO rules and procedures. For flights that originate in the United States and are conducted in accordance with ICAO rules and procedures, it is not intended that both an ICAO flight plan and DD-175 be submitted. Base operations shall specify the form desired in order that flight plan information may be passed to the appropriate ATCF/FSS.

e. The flight plan form specified by the local authorities shall be used for flights originating at points of departure outside the United States.

4.4.4.6 Shore-to-Ship and Ship-to-Shore Operations. For shore-to-ship and ship-to-shore operations, the following procedures apply:

a. Prior to flight from a shore activity to a ship operating in offshore areas when a landing aboard the ship is intended, the pilot in command shall file a flight plan. For flights conducted in IMC, a DD-175 or daily flight schedule with approved stereo (ARTCC computer stored)/canned flight plan code shall be filed. Flights conducted under VFR may use an abbreviated DD-175 or daily schedule.

b. Flight plans must be filed when flights originating from offshore operating areas will penetrate controlled airspace or terminate at shore activities. Ships shall relay flight plans to appropriate ATC facilities in a timely manner and pilots shall confirm their flight plans with an appropriate ATC facility ashore as soon as practicable.

c. Timely handling of flight movement information for each shore/ship operation is essential.

d. Flight suspense for SAR purposes becomes the responsibility of the destination activity after acknowledging receipt of a flight plan.

e. Procedures for flights penetrating or operating within a coastal or domestic ADIZ or defense early warning identification zone (DEWIZ) are prescribed in FLIP (En Route) IFR Supplements.

4.4.4.7 Stopover Flights Within the United States. NAs are authorized to utilize one DD 175 to plan flights involving en route stops, subject to compliance with the following procedures and limitations:

a. The flight plan (DD 175) shall be prepared in accordance with the applicable instructions contained in the DOD FLIP (planning).

b. NOTAM and weather briefing shall be obtained at point of origin for the entire route of flight. The weather information entered on the DD-175-1 shall clearly indicate the forecast weather (en route) for each leg of the flight, each destination, and each alternate (if required). Separate DD 175-1s may be

utilized for each leg. Pilots shall periodically determine that the intended route of flight remains clear of aviation severe weather watch (WW) bulletins and that weather forecasts for each successive intermediate destination (and alternates when required) continue to satisfy the minimums established in paragraph 4.6.4 or 5.2 as applicable.

c. No change shall be made in the pilot in command.

d. A corrected manifest shall be left with a responsible person at each intermediate base at which a change of passengers or crew occurs (see paragraph 4.6.2).

e. Weight and balance must remain within limits (see paragraph 4.6.6).

f. A revised flight plan *void* time shall be filed with Flight Service when appropriate.

g. The pilot shall close out the balance of the original flight plan if the flight is terminated at an intermediate base.

Note

Stopover flights outside of the United States are governed by the procedures contained in the appropriate area FLIP (planning) publication.

4.4.5 Signing the Flight Plan

4.4.5.1 Pilot in Command/Formation Leader. Except when a daily flight schedule is used in lieu of a flight plan form, the pilots in command/formation leaders shall sign the flight plan for their flight. For multipiloted aircraft, the pilot in command/formation leader may choose to delegate this responsibility to a NATOPS qualified pilot/NFO. Regardless, the pilot in command/formation leader is responsible for compliance with items a through h.

a. The flight has been properly authorized.

b. Adequate flight planning data, including NOTAM service, was available for complete and accurate planning.

c. The flight will be conducted in accordance with governing directives and adherence to criteria for fuel requirements and weather minimums.

d. Each pilot in a formation flight has received the required weather briefing.

e. The pilot in command/each pilot in a formation flight possesses a valid instrument rating if any portion of the flight is to be conducted under IMC or in positive control areas or positive control route segments.

f. Passengers have been properly briefed and manifested.

g. Proper weight and balance forms, if applicable, have been filed.

h. The pilot in command acknowledges responsibility for the safe and orderly conduct of the flight.

4.4.5.2 Daily Flight Schedule. A signature by the reporting custodian or other appropriate authority on the daily flight schedule, when used in lieu of a flight plan form, signifies that preceding items (a) through (h) shall be assured prior to flight.

4.4.5.3 Flight Plan Approval. The pilots in command of a naval aircraft or formation leaders are authorized to approve the flight plan for their proposed flight or modification thereof.

4.5 FLIGHT PLAN MODIFICATION

Modification of a written flight plan shall be accomplished only with the concurrence of the pilot in command.

4.6 OTHER PREFLIGHT REQUIREMENTS

4.6.1 Call Sign Requirements. Call sign selection for cross-country flights shall be made in accordance with DOD FLIPs. It is strongly recommended that squadron modex (NJ213, DB214) be used in flight planning. If the use of tactical/squadron call signs is necessary, call signs shall be the approved JANAP 119 call sign for the unit concerned. Abbreviations or contractions of these call signs is not authorized.

4.6.2 Manifest Requirements. The pilot in command of a naval aircraft flight shall ensure that a copy of the manifest is on file with a responsible agency at the point of departure prior to takeoff. The manifest shall include an accurate list of personnel aboard the aircraft, showing names, serial numbers, grade and service if military, duty station, and status aboard the aircraft (passenger or crew). All persons aboard other than flight personnel are "passengers" and shall be manifested as such. When initial transmission of a flight plan by radio is permitted after takeoff in accordance with this instruction, depositing such a personnel list continues to be a mandatory pretakeoff requirement

of the pilot in command of the flight. The pilot shall state the location of the required personnel list when filing by radio or telephone. Helicopter pilots engaged in SAR missions, lifting reconnaissance parties, patrols, and outposts during field problems are released from manifest responsibilities when there is no proper agency available with whom a passenger manifest could be deposited.

4.6.3 Weather Briefing

4.6.3.1. General. Pilots are responsible for reviewing and being familiar with weather conditions for the area in which flight is contemplated. Where Naval Meteorology and Oceanography Command (NMOC) services are locally available, weather briefings shall be conducted by a qualified meteorological forecaster. They may be conducted in person or by telephone, autograph, or weathervision. FAA weather briefings obtained from FSS or DUAT services may be used as a supplement to NMOC service briefing. If NMOC services are not locally available, an FAA-approved weather briefing may be substituted.

4.6.3.2 Flight Weather Briefing Form. A DD 175-1, flight weather briefing, shall be completed for all flights to be conducted in IMC. The forecaster shall complete the form for briefings conducted in person and for autographic briefings. It is the pilot's responsibility to complete the form for telephonic or weathervision briefings. For VFR flights using the DD-175, the following certification on the flight plan may be used in lieu of a completed DD 175-1:

Note

Navy and Marine Corps forecasters are required to provide flight weather briefings (DD 175-1 briefs or VFR stamps) within 2 hours of ETD and to assign briefing void times that do not exceed ETD plus one-half hour.

BRIEFING VOID _____ Z, FLIGHT AS PLANNED CAN BE CONDUCTED UNDER VISUAL FLIGHT RULES. VERBAL BRIEFING GIVEN AND HAZARDS EXPLAINED. FOLLOWING SIGMETS ARE KNOWN TO BE CURRENTLY IN EFFECT ALONG PLANNED ROUTE OF FLIGHT.

_____
(Signature of forecaster)

Note

If the intended VFR flight plan includes a mission (i.e., OLIVE BRANCH) or an airfield requiring VFR minimums higher than the basic 1,000-foot ceiling and 3-statute-mile visibility, it is the responsibility of the pilot to advise the weather briefer of these higher minimums..

4.6.3.3 Flight Weather Packet. A flight weather packet, including a horizontal weather depiction (HWD) chart, may be requested where Navy or Marine Corps weather services are available. Pilots should routinely allow a minimum of 2 hours for preparation of the packet. Pilots on extended flights, especially those on long overwater routes, are encouraged to avail themselves of that service. Items contained in the flight weather packet are set forth in OCEANCOMINST 3140.14.

4.6.4 Weather Criteria for Filing. Flight plans shall be filed based on all the following:

a. The actual weather at the point of departure at the time of clearance

b. The existing and forecast weather for the entire route of flight

c. Destination and alternate forecasts for a period 1 hour before ETA until 1 hour after ETA.

4.6.4.1 VFR Flight Plans. The pilot in command shall ascertain that actual and forecast weather meets the criteria specified in paragraph 5.2.4 prior to filing a VFR flight plan.

4.6.4.2 IFR Flight Plans. Regardless of weather, IFR flight plans shall be filed and flown whenever practicable as a means of reducing midair collision potential. In any case, forecast meteorological conditions must meet the weather minimum criteria shown in Figure 4-1 for filing IFR flight plans and shall be based on the pilot's best judgment as to the runway that will be in use upon arrival. IFR flight plans may be filed for destination at which the forecasted weather is below the appropriate minimums provided a suitable alternate airfield is forecast to have at least 3,000-foot ceiling and 3-statute-mile visibility during the period 1 hour before ETA until 1 hour after ETA.

4.6.4.3 Alternate Airfield. An alternate airfield is required when the weather at the destination is forecast to be less than 3,000-foot ceiling and 3-statute-mile visibility during the period 1 hour before ETA until 1 hour after ETA.

<table>
<tr><th>DESTINATION WEATHER
ETA plus and minus 1 hour</th><th colspan="3">ALTERNATE WEATHER
ETA plus and minus 1 hour</th></tr>
<tr><td>0 — 0 up to but not including published minimums</td><td colspan="3">3,000 — 3 or better</td></tr>
<tr><td rowspan="3">Published minimums up to but not including 3,000 — 3 (single-piloted absolute minimums 200 — 1/2)</td><td rowspan="2">NON-PRECISION</td><td colspan="2">PRECISION</td></tr>
<tr><td>ILS</td><td>PAR</td></tr>
<tr><td>*Published minimums plus 300-1</td><td>Published minimums plus 200-1/2</td><td>*Published minimums plus 200-1/2</td></tr>
<tr><td>3,000 — 3 or better</td><td colspan="3">No alternate required</td></tr>
<tr><td colspan="4">*In the case of single-piloted or other aircraft with only one operable UHF/VHF transceiver, radar approach minimums may not be used as the basis for selection of an alternate airfield.</td></tr>
</table>

Figure 4-1. IFR Filing Criteria

Note

If an alternate airfield is required, it must have a published approach compatible with installed operable aircraft navigation equipment that can be flown without the use of two-way radio communication whenever either one of the following conditions is met:

a. The destination lacks the above described approach.

b. The forecasted weather at the alternate is below 3,000-foot ceiling and 3-statute-mile visibility during the period 1 hour before ETA until 1 hour after ETA.

4.6.4.4 Icing and Thunderstorm Conditions. Flights shall be planned to circumvent areas of forecast atmospheric icing and thunderstorm conditions whenever practicable.

4.6.4.5 Aviation Severe Weather Watch Bulletins. The National Weather Service issues unscheduled WWs whenever there is a high probability of severe weather. WWs are used for a designated area and a specified time period. WWs are used by the Navy and Marine Corps weather forecasters for forecasting hazardous flying conditions. The Air Force issues scheduled military weather advisories (MWA). Those graphical advisories are an estimate of the weather-producing potential of the existing air masses. The advisories will be given to all pilots filing from U.S. Air Force bases and will be used for flight planning when a National Weather Service WW is unavailable. Valid WW and MWA bulletins will be graphically displayed in all Navy and Marine Corps weather briefing offices. Air Force advisories do not constitute a National Weather Service WW. Except for operational necessity, emergencies, and flights involving all-weather research projects or weather reconnaissance, pilots shall not file into or through areas that the National Weather Service has issued a WW unless one of the following exceptions apply:

a. Storm development has not progressed as forecast for the planned route. In such situations:

(1) VFR filing is permitted if existing and forecast weather for the planned route permits such flights.

(2) IFR flight may be permitted if aircraft radar is installed and operative, thus permitting detection and avoidance of isolated thunderstorms.

(3) IFR flight is permissible in positive control areas if VMC can be maintained, thus enabling aircraft to detect and avoid isolated thunderstorms.

b. Performance characteristics of the aircraft permit an en route flight altitude above existing or developing severe storms.

Note

It is not the intent to restrict flights within areas encompassed by or adjacent to a WW area unless storms have actually developed as forecast.

4.6.5 Minimum Fuel Requirements

4.6.5.1 Fuel Planning. All aircraft shall carry sufficient usable fuel, considering all meteorological factors and mission requirements as computed below:

a. If alternate is not required, fuel to fly from takeoff to destination airfield, plus a reserve of 10 percent of planned fuel requirements.

b. If alternate is required, fuel to fly from takeoff to the approach fix serving destination and thence to an alternate airfield, plus a reserve of 10 percent of planned fuel requirements.

c. In no case shall the planned fuel reserve after final landing at destination or alternate airfield, if one is required, be less than that needed for 20 minutes of flight, computed as follows:

(1) Reciprocating engine-driven aircraft — Compute fuel consumption based on maximum endurance operation at normal cruise altitudes.

(2) Turbine-powered fixed-wing/tilt-rotor aircraft — Compute fuel consumption based on maximum endurance operation at 10,000 feet.

(3) Turbine-powered helicopters — Compute fuel consumption based on operation at planned flight altitude.

d. Minimum fuel reserve requirements for specific model aircraft shall be contained in the appropriate NATOPS manual.

4.6.5.2 In-Flight Refueling. Aircraft shall carry sufficient usable fuel to fly from takeoff point to air refueling control point(s) (ARCP), thence to a suitable recovery field in the event of an unsuccessful refueling attempt. In no case shall the fuel reserve at rendezvous point be less than 10 percent. For multiple in-flight refuelings, the aircraft must have the required reserve at each rendezvous point. After the last in-flight refueling is completed, the fuel reserve required for the remainder of the flight shall be in accordance with paragraph 4.6.5.1.

4.6.5.3 Delays. Any known or expected traffic delays shall be considered "time en route" when computing fuel reserves. If route or altitude assigned by air traffic control causes or will cause planned fuel reserves to be inadequate, the pilot shall inform ATC of the circumstances, and, if unable to obtain a satisfactory altitude or routing, alter destination accordingly.

4.6.6 Weight and Balance Control

4.6.6.1 Requirements. Requirements for aircraft weight and balance control are contained in the current NA-01-1B-40 weight and balance data and N0-01-1B-50 USN aircraft weight and balance control manuals. Maximum operating weights, restrictions, and center-of-gravity limitations are delineated in the applicable NATOPS manual.

4.6.6.2 Responsibility. With the exception of aircraft to be ferried, the responsibility for ensuring safe loading of Class 1A, 1B, and Class II aircraft is assigned to reporting custodians. The responsibility for safe loading of aircraft to be ferried rests with the activity preparing the aircraft for ferry movement.

4.6.6.3 Filing. By the signature on the DD-175, the pilot in command certifies that aircraft weight and center of gravity will be within safe limits at time of takeoff and remain so for the duration of the flight. Additionally, the pilot in command certifies that:

a. A completed weight and balance clearance form (DD 365-4) presented with the DD-175 represents the actual aircraft loading.

b. A completed DD 365-4 representing the actual aircraft loading is on file at the aircraft's home base.

4.6.6.4 Records. DD 365-4 originals shall be retained for a period of 3 months.

4.7 CLOSING OF FLIGHT PLAN

It is the responsibility of the pilot in command/formation leader to ensure that the proper agency is notified of flight termination.

4.7.1 Military Installations. At military installations, the pilot either shall verbally confirm the closing of the flight plan with tower or base operations personnel or deliver a copy of the flight plan form to base operations.

4.7.2 Nonmilitary Installations. At nonmilitary installations, the pilot shall close the flight plan with flight service through any means of communication available. Collect, long-distance telephone service may be used if required. When appropriate communication links are known or suspected not to exist at the point of intended landing, a predicted landing time in lieu of the actual landing shall be reported to an appropriate aeronautical facility while airborne.

Note

Cancellation of an instrument flight plan does not meet the requirement for "closing out" the flight plan. When a landing report has been properly delivered, the flight plan will be considered closed out.

CHAPTER 5

Flight Rules

5.1 GENERAL FLIGHT RULES

5.1.1 Aircraft Lighting. Except when the nature of operations requires different lighting displays (i.e., formation flight, aerial refueling, carrier operations, night vision device (NVD) operations, FCLP pattern, emergency signals, etc.) or the model aircraft configuration precludes compliance, the following rules shall apply.

Note

Flight operations with NVDs are specifically addressed in paragraph 5.7.

5.1.1.1 Position Lights. Standard position lights shall be displayed during the period 30 minutes before official sunset until 30 minutes after official sunrise or at any time when the prevailing visibility as seen from the cockpit is less than 3 statute miles. During these conditions, they shall be displayed:

a. Immediately before engine start and anytime the engine(s) is running.

b. When the aircraft is being towed unless the aircraft is otherwise illuminated.

c. When an aircraft is parked and likely to cause a hazard unless the aircraft is otherwise illuminated or marked with obstruction lights.

5.1.1.2 Anticollision Lights. Anticollision lights shall be used immediately before engine start and at all times when the aircraft engine(s) is in operation, except when the use of such lights adversely affects ground operations (i.e., arming and dearming, refueling operations, etc.). They may be turned off during flight through clouds when the rotating light reflects into the cockpit. The use of green anticollision lights for the specific purpose of identifying airborne tankers is authorized, provided that standard position lights are also displayed.

5.1.1.3 Landing/Taxi Lights. The use of landing/taxi lights is an effective means of illuminating surface hazards during taxi movements at night and alerting all concerned of an aircraft's presence/position in flight. Landing/taxi lights should be utilized for all taxi movements ashore during the hours of darkness unless the aircraft is being directed by a taxi signalman. Use of those lights during landing approaches (both day and night) within class B, C, or D airspace is recommended when meteorological conditions permit.

Note

- Good judgment should be exercised to avoid blinding pilots of other aircraft that are either airborne or on the ground.
- Use of landing/taxi lights is recommended in areas of high bird concentration.

5.1.1.4 Formation Flight Lighting. To the extent necessary for safety, lighting configuration for formation flights may be varied according to aircraft model and mission requirements. Normally, all aircraft in the flight shall have external lights on and at least one aircraft in the flight shall have lights on bright and the anticollision light on when aircraft lighting is required.

Note

Aircraft engaged in drug interdiction operations are granted relief from FAR 91.209(a) provided each operation is conducted using a dedicated on-board observer, electronic/radar equipment, or an observer in a spotter aircraft, all of which must be capable of detecting the presence of other aircraft operating in proximity to the interdiction aircraft and alerting the pilot to those aircraft locations. Additionally, interdiction aircraft will be required to operate the aircraft position lights to the maximum extent possible when instructed by ATC and will be authorized to operate without lights only when necessary to avoid detection by illegal elements.

5.1.2 Right-of-Way Between Single and Formations of Aircraft. When a single naval aircraft is converging with an aircraft formation at approximately the same altitude (except head-on, or nearly so), the formation flight has the right of way. In other cases, the formation shall be considered as a single aircraft and the right-of-way rules of FAR 91.113 apply.

5.1.3 Unusual Maneuvers Within Class B, C, or D Airspace. Pilots shall not perform or request clearance to perform unusual maneuvers within class B, C, or D airspace if such maneuvers are not essential to the performance of the flight. ATC personnel are not permitted to approve a pilot's request or ask a pilot to perform such maneuvers. Unusual maneuvers include unnecessary low passes, unscheduled fly-bys, climbs at very steep angles, practice approaches to altitudes below specific minimums (unless a landing is to be made), or any so-called "flat hatting" wherein a flight is conducted at a low altitude and/or a high rate of speed for thrill purposes.

5.1.4 Aircraft Speed

5.1.4.1 FAR 91. To reduce midair collision hazards associated with high aircraft speeds at low altitudes, FAR, Part 91.117, imposes a maximum airspeed limitation of 250 knots indicated airspeed (KIAS) on all aircraft operating below 10,000 feet mean sea level (MSL) in airspace where FAR, Part 91, applies and a maximum of 200 KIAS for aircraft operating: (1) at or below 2,500 feet above the surface within 4 nm of the primary airport of a Class C or D airspace area, or (2) in the airspace underlying a Class B airspace area designated for an airport or in a VFR corridor designated through such a Class B airspace area. The regulation grants exception for operations that cannot safely be conducted at airspeeds less than the prescribed maximum airspeed. The FAA has authorized the DOD to exceed 250 KIAS below 10,000 feet MSL for certain military requirements.

Note

Aircraft engaged in drug interdiction operations are exempted from the general speed limit of 250 knots below 10,000 feet MSL. However, pilots of aircraft so involved are required to establish and maintain two-way radio communication with the tower prior to entering the class B, C, or D airspace and, unless otherwise authorized by ATC, avoid the traffic patterns for any airport in class B, C, or D airspace.

5.1.4.2 Policy. In accordance with FAA authorization, flight operations below 10,000 feet MSL at an indicated airspeed in excess of 250 knots are authorized under the following conditions:

a. Within restricted areas.

b. Within military operations areas.

c. When operating on DOD/FAA mutually developed and published routes.

d. When operating on DOD-developed and DOD-published VR routes. Such routes shall be established for specific missions and used only by designated units when the provisions of a through c above will not accommodate the required national defense mission. Routes shall be developed and published in accordance with DOD/FAA mutually developed criteria.

e. When operating within large-scale exercises or on short-term special missions approved by commanders listed in paragraph 5.1.4.3. Such exercises or missions may be authorized provided that coordination is effected to ensure awareness on the part of the nonparticipating flying public.

f. If the airspeed required or recommended in the aircraft NATOPS manual to maintain safe maneuverability is greater than the maximum speed descri in FAR, Part 91.117, the aircraft may be operate that speed. Where the required or recommende speed is given as a range, the lower part of the speed range consistent with good operating practice should be used. The primary purpose of this provision is to accommodate climbs, descents, and terminal area operations and shall not be used to circumvent the provisions of subparagraphs above. Under no circumstance will this safe maneuverability provision be construed as authorization for individual pilots or mission commanders to conduct other flights below 10,000 feet in excess of 250 knots.

5.1.4.3 Approval Authority. Approval Authority for 5.1.4.2c is as follows: CMC; COMNAVAIRPAC; COMNAVAIRLANT; COMMARFORPAC; COMMARFORLANT; CNATRA; COMNAVAIRESFOR; CG FOURTH MAW; or COMNAVAIRSYSCOM, as appropriate. Such operations may be approved providing full consideration is given to mission requirements and the safety of nonparticipating aircraft. The above commanders must review and approve each route established in accordance with paragraphs 5.1.4.2c and 5.1.4.2d within respective areas of responsibility. Coordination will be effected with the appropriate NAVRF at the FAA Regional Office to ensure that notice to aviation public is provided.

Note

When an altitude below 10,000 feet MSL is assigned to aircraft requiring a higher operating speed for safe maneuverability, as indicated in the NATOPS manual for that aircraft, the pilot shall notify the controlling ATC facility of that higher minimum speed.

5.1.5 Special Use Airspace

a. When operating within Special Use Airspace (SUA), ATC Assigned Airspace (ATCAA), or altitude reservations (ALTRVs), flights shall be conducted under the prescribed OPAREA procedures appropriate to the airspace area and mission/operation. Procedures and separation standards may be contained in a letter of agreement between the FAA and the military, or other applicable military or FAA directives.

b. Military Assumes Responsibility for Separation of Aircraft (MARSA) may be applied between military aircraft as specified by letter of agreement or other appropriate military and FAA documents. However, MARSA may not be invoked by individual aircraft or between flights of aircraft.

Note

- It is of the utmost importance that aircraft operating independently or under the control of a ground, ship, or airborne controller remain within the specified vertical and horizontal limits of assigned airspace. Remaining within assigned airspace can only be achieved by maintaining a total awareness of details depicted in current charts, publications, and military directives, coupled with a continual assessment of the accuracy of the controlling agency's radar. It may be required to operate with self-imposed vertical and horizontal buffers to remain within assigned airspace.

- When operating in designated SUA, aircrews should be aware that civilian aircraft may not honor the existence of such areas, nor monitor radio frequencies to receive appropriate warning/advisories.

5.1.6 Military Training Routes (MTRs)

5.1.6.1 General

a. MTRs have been developed to accommodate high-speed, low-level tactical training in excess of 250 KIAS. Operations shall be conducted at the minimum airspeed compatible with mission requirements. General information concerning MTRs is contained in OPNAVINST 3722.33 (FAA Order 7610.4, Special Military Operations). Specific route information is contained in FLIP AP/1B (Military Training Routes). Safety of flight is of prime consideration during all phases of low-altitude training.

b. MTRs that include one or more segments above 1,500 feet AGL are identified by a three-digit identifier; those with no segment above 1,500 feet AGL are identified by four digits.

c. Flight operations conducted along these routes or segments of these routes shall conform to the direction of traffic flow indicated in the route description.

5.1.6.2 Preflight Planning

a. Low-altitude, high-speed navigation training can be safely conducted by the execution of carefully planned flights. It is the responsibility of each crewmember to maintain professionalism in low-level operations and exercise a thorough knowledge of MTRs and operating constraints to ensure safe and meaningful training.

b. Low-level flying requires extensive preflight planning. A thorough review of FLIP AP/1B temporary route advisories, Chart Updating Manual (CHUM), and Chart Updating Manual Supplement (CHUMSUPP) is essential to ensure flight safety and maximum training from each sortie. Check with the scheduling agency for unpublished restrictions and low-altitude charts for airspace restrictions.

c. A 1:500,000 scale chart, current tactical pilotage chart (TPC) or sectional aeronautical chart, should be used for flying low-level navigation.

d. Review the route corridor to identify all significant obstacles and high terrain. Note the avoidance criteria for airfields and the need to remain clear of published noise-sensitive areas.

e. Compute a route abort altitude. This altitude shall provide obstruction clearance. Aircrew must be aware of route structure.

5.1.6.3 Operating Procedures

5.1.6.3.1 General

a. Unless otherwise delineated in an MTR's special operating procedures, aircrew shall avoid charted, uncontrolled airports by 3 nm or 1,500 feet.

b. Aircrew shall avoid Class B, C and D airspace.

c. Aircrew shall minimize disturbance to persons/property on the ground.

d. All route entries shall be accomplished at published entry/alternate entry points only.

e. Adherence to scheduled entry times provides for safe separation from other aircraft on the route or aircraft on conflicting/crossing routes.

f. Pilots shall be responsible for remaining within the confines of the published route width and altitude. If in an emergency it should become necessary to exceed the route parameters, the 250-knot speed restriction of FAR 91.117 applies.

g. MTR Segment Transition

(1) Pilots transitioning from one MTR segment to another segment with a lower minimum altitude must cross the fix defining the next leg no lower than the preceding segment's minimum altitude. Example: "05 AGL B 15 AGL to "E" 02 AGL B 15 AGL to ..." indicates "E" must be crossed no lower than 500 feet AGL.

(2) Pilots transitioning from one MTR segment to another segment with a higher minimum altitude must cross the fix defining the next leg no lower than the subsequent segment's minimum altitude. Example: "02 AGL B 15 AGL to "B" 10 AGL B 15 AGL to ..." indicates "B" must be crossed no lower than 1,000 feet AGL.

(3) Pilots transitioning from one MTR segment to another segment with a lower maximum altitude must cross the fix defining the next leg no higher than the subsequent segment's maximum altitude. Example: "10 AGL B 60 MSL to "D" 02 AGL B 15 AGL to ..." indicates "D" must be crossed no higher than 1,500 feet AGL.

(4) Pilots transitioning from one MTR segment to another segment with a higher maximum altitude must cross the fix defining the next leg no higher than the preceding segment's maximum altitude. Example: "10 AGL B 40MSL "B" 02 AGL B 70 MSL to ..." indicates "B" must be crossed no higher than 4,000 feet MSL.

h. Pilots shall be responsible for adhering to the provisions of FAR 91.119 (Minimum Safe Altitude, General).

i. All route exits shall be accomplished at published exit/alternate exit points only.

j. When exiting an MTR below 10,000 feet MSL, the flight shall comply with FAR 91.117 (Aircraft Speed).

5.1.6.3.2 IR Procedures

a. All IFR Military Training Route (IR) operations shall be conducted on IFR flight plans.

b. Pilots shall be responsible for obtaining a specific ATC entry clearance from the appropriate ATC facility prior to entering an IR route.

c. Contour flight on IRs is outlined in FLIP AP/1 Refer to "Terrain Following Operation" entry for applicable IR routes.

d. Pilots shall be responsible for obtaining an IFR ATC exit clearance prior to exiting an IR route.

5.1.6.3.3 VR Procedures

a. Flight plan requirements for VFR Military Training Route (VR) usage:

(1) Pilots departing on IFR clearances to fly VRs are required to file to the fix/radial/distance of their route entry/alternate entry point.

(2) Pilots transitioning to IFR upon exiting a VR are required to have on file a previously filed IFR flight plan from the appropriate fix/radial/distance of their exit point.

b. Operations on VRs shall be conducted only when the weather is at or above VFR minimal except that:

(1) Flight visibility shall be 5 miles or more and

(2) Flights shall not be conducted below a ceiling of less than 3,000 feet AGL.

c. For VR routes, the nearest Flight Service Station will be notified (255.4 MHz) by the pilot upon entering the route with: entry time, number/type aircraft, exit fix and estimated exit time.

d. Pilots of aircraft operating on a VR route will adjust their transponder to code 4000 unless otherwise assigned by ATC.

5.1.6.4 Communication Failure

a. If the failure occurs in VMC, or if VMC are encountered after the failure, each pilot shall continue the flight VFR and land as soon as practical. Refer to FAR 91.185b and DOD FLIP Flight Information Handbook.

b. If the failure occurs in IMC or if paragraph a above cannot be complied with, each pilot shall:

(1) Maintain to the exit/alternate exit point the higher of the following:

(a) The minimum IFR altitude for each of the remaining route segment(s)

(b) The highest altitude assigned in the last ATC clearance.

(2) Depart the exit/alternate exit point at the altitude determined in (1) above, then climb/descend to the altitude filed in the flight plan for the remainder of the flight.

c. Adjust transponder to reply on Mode 3/A Code 7600.

5.1.6.5 Emergency. If aircrews are unable, during an emergency, to continue on a VR or IR at the published altitude(s), they shall immediately squawk 7700 and contact the appropriate ATC facility.

Note

Climbing above the MTR structure may place aircraft in close proximity to airways traffic; caution is advised.

5.1.7 Flight Over the High Seas

a. International law recognizes the right of aircraft of all nations to fly in airspace over the high seas. By convention, procedures for international flight are prescribed and certain nations have agreed to provide air traffic services in designated airspace over the high seas. Naval aircraft are operated in accordance with ICAO procedures presented in OPNAVINST 3770.4 (Use of Airspace by Military Aircraft and Firing Over the High Seas) and DOD FLIP General Planning, which address use of airspace by U.S. military aircraft and define "due regard" operations for military aircraft.

b. During flight operations at sea, tower or radar control by a ship, Fleet Area Control and Surveillance Facility (FACSFAC), or other suitable agency, shall be used to the maximum extent practicable. The degree of control shall be appropriate to the nature of the operation, classification of airspace, number of aircraft involved, and the requirement to coordinate aircraft ingress and egress to/from the operating area.

c. When operating offshore within domestic ARTCC boundaries, airspace of the Hawaiian Islands, and the San Juan Domestic Control Area, Navy policy is to use domestic air traffic control services and procedures to the maximum extent practicable consistent with mission requirements.

Note

When radar control of fixed-wing aircraft is being provided by a Navy ship or shore station in airspace managed by a FACSFAC, continuous two-way communication is required between that ship or shore station and the FACSFAC. Also the FACSFAC must maintain two-way communication with the appropriate FAA facility as required.

5.1.8 Supersonic Flight Operations

5.1.8.1 General. COs assigned aircraft capable of supersonic flight shall ensure that aircrews are thoroughly familiar with the shock wave phenomenon peculiar to supersonic flight. Serious damage, annoyance, and mental stress have resulted from sonic booms. It is incumbent on every pilot flying aircraft capable of generating sonic booms to reduce such disturbances and damage to the absolute minimum dictated by operational/training requirements.

5.1.8.2 Policy. Supersonic flight operations shall be strictly controlled and supervised by operational commanders. Supersonic flight over land or within 30 miles offshore shall be conducted in specifically designated areas. Such areas must be chosen to ensure minimum possibility of disturbance. As a general policy, sonic booms shall not be intentionally generated below 30,000

feet of altitude unless over water and more than 30 miles from inhabited land areas or islands. Deviations from the foregoing general policy may be authorized only under one of the following:

a. Tactical missions that require supersonic speeds

b. Phases of formal training syllabus flights requiring supersonic speeds

c. Research, test, and operational suitability test flights requiring supersonic speeds

d. When specifically authorized by CNO for flight demonstration purposes.

5.1.8.3 Reports, Inquiries, and Investigations

a. The Department of the Navy must accept responsibility for restitution and payment of just claims for damage resulting from sonic booms determined to have been caused by naval aircraft. To assist in determining validity of claims, all supersonic flights conducted over the continental United States or within 50 miles offshore shall be logged as to time, date, location, speed, and altitude of occurrence and retained at the unit level for 24 months.

b. Section 0910f of the Manual of the Judge Advocate General (JAGINST 5800.7) provides information and instructions concerning investigations into sonic boom complaints and alleged damage claims.

c. A computerized central sonic boom repository is maintained at Headquarters, U.S. Air Force containing records of USAF supersonic flight activity reported as having occurred over the continental United States and within 50 miles offshore. A readout from the central repository for use in investigating claims/complaints can be obtained by contacting CNO (N885F).

5.1.9 Aerobatic Flight

5.1.9.1 General. CNO does not desire to discourage or curtail aerobatic training; however, it is of the utmost importance that aerobatic training be well regulated as to time, place, and conditions that enhance safety of flight.

5.1.9.2 Aerobatic Flight Precautions. Aerobatic flight maneuvers, as defined in paragraph 1.3.3, shall not be performed:

a. If prohibited by the NATOPS manual or other directives applicable to a particular model aircraft.

b. Within a control zone of Federal airway.

c. Over congested areas or open air assemblies c persons.

d. Unless the aircraft remains in VFR conditions and at an altitude of at least 1,500 feet above the highest obstruction to flight or cloud tops within horizontal distance of 5 statute miles. Exception: diving and recovering maneuvers as necessitated by gunnery and dive bombing or other tactical airspace where FARs apply (i.e., restricted areas and international airspace).

5.1.9.3 Designated Aerobatics Areas. Appropriate commanders shall establish and designate areas in which aerobatics may be performed in compliance with the above restrictions and, under FAR, Part 91.303, in airspace where FARs apply. Pilots are encouraged to conduct aerobatic flight within the limits of designated aerobatic areas whenever the assigned mission permits.

5.1.10 Simulated Air Combat Maneuvering (ACM) Training Rules

5.1.10.1 General

a. ACM is defined as the following:

(1) Aggressive three-dimensional maneuvering between two or more aircraft simulating offensive or defensive aerial combat where the potential for a role reversal exists.

(2) Defensive maneuvers or other combat avoidance maneuvers by one or more aircraft.

Note

- Aerobatic maneuvers in accordance with NATOPS manuals on scheduled training flights approved by competent authority are not considered to be ACM. However, *single aircraft practicing* ACM maneuvers shall comply with the appropriate portions of the training rules (decks, cloud clearance, area, g warmup, etc.).

- Air intercepts, performed in accordance with NATOPS manuals or as prescribed by cognizant TYCOMs are not considered to be ACM. These intercepts will result in no more than 180° of turn by any aircraft postmerge and will be terminated prior to any potential role reversal.

Note

- The following maneuvers are considered to be ACM. This list should not be considered to be all inclusive.

  (a) Neutral starts (to include butterfly starts)

  (b) Offensive/defensive perches

  (c) Scissors maneuvers (roller, flat, looping)

  (d) Gun defenses

  (e) Missile defenses to full blown engagements.

- The following maneuvers are not considered to be ACM. However, ACM flight leads should use prudent head work to ensure that adequate separation from clouds can be maintained during any three-dimensional maneuvering:

  (a) Snapshot drill (guns weave, weapons weave)

  (b) Tail chase (heat-to-guns drill)

  (c) Forward quarter missile defenses that are terminated at the merge.

b. ACM qualification proficiency requirements and a training syllabus shall be issued by COMNAVAIRLANT, COMNAVAIRPAC, COMNAVAIRESFOR, or CMC. Pilots and naval flight officers flying ejection seat aircraft shall complete out of control flight (OOCF)/spin training for currently assigned aircraft, as deemed appropriate by TYCOMs. Training flights shall be conducted under a formal training syllabus under direct supervision of mature, experienced flight leaders and only after all participants have been thoroughly briefed on the conduct of the flight. Unscheduled and/or unbriefed simulated combat between naval aircraft or between naval aircraft and aircraft of any other service or registry is prohibited.

c. Pilots of naval aircraft shall not make simulated attacks on any aircraft that has troops or passengers embarked except as may be authorized by fleet commanders for exercises where coordinated and scheduled simulated attacks against military troop transport aircraft are desired for training purposes.

d. Squadron commanders will ensure that all participants are qualified and current in accordance with applicable directives in order to participate in ACM.

e. Prior to commencing ACM maneuvering, fixed-wing aircrews shall perform a "g" awareness maneuver. This maneuver shall consist of a total of 180° of turn and should be used to operationally check g suits and to practice straining maneuvers up to an amount of g's approaching the maximum amount anticipated on that particular flight.

f. If an aircrew experiences g loss of consciousness (GLOC) during any portion of the flight, the flight shall immediately terminate and that aircraft shall return to base.

g. Departure/spin recovery procedures shall be covered for all ACM participants during the preflight brief.

h. A face-to-face brief shall be conducted by ACM participants unless waived in accordance with applicable directives. As a minimum, one individual from each participating unit shall attend a face-to-face brief. In the event participating units are not collocated, a memorandum of understanding, a message or telephone brief, or a preexercise brief between units may satisfy this requirement.

5.1.10.2 ACM Training

a. The nature of ACM demands that pilots be thoroughly familiar with the performance capabilities and limitations of the aircraft being flown. Rapid changes in heading, altitude, and the wide range of velocities generated greatly increase the possibility of collisions between aircraft. ACM must be closely supervised and training rules (TR) (formerly rules of engagement) applied that will provide a high degree of safety for all concerned.

b. Such training shall be conducted in airspace as nearly free from other aircraft as practicable. It shall be conducted only in designated warning/restricted areas, in controlled airspace as assigned by ATC, or in other designated areas where safe separation from nonparticipants can be maintained. As a minimum, designated ACM areas shall be clear of Federal airways, Class B, C, or D airspace, and other areas of traffic congestion unless established under a letter of agreement with the FAA or host nation. TYCOMs or officers in tactical command (OTCs), when deployed, shall designate ACM training areas and establish procedures to ensure that entering flights are aware of the existence of other scheduled flights operating there.

c. The ACM training rules set forth here are minimum requirements. Supplementary directives shall

be issued as required by responsible commanders delineating syllabus contents, proficiency levels required, communication procedures, safety precautions, and other applicable areas of concern.

5.1.10.3 ACM Training Rules. The following rules are intended to provide guidance for conducting safe, accident-free ACM training:

a. Always assume the other aircraft does not see you.

b. Aircraft will maneuver to maintain at least 500 feet of separation from all other aircraft during engagements, including aircraft within the same division/section.

c. During a forward quarter or head-on pass (track crossing angle greater than 135°), both aircraft will maintain the established trend. Where no established trend exists, each aircraft will give way to the right to create a left-to-left pass. When operating on the same radio frequency, aircrew should broadcast their own intentions if the direction of pass is in doubt. When operating on dual frequencies, exaggerate aircraft movements to ensure that the other aircraft recognizes your intentions.

d. The "up-sun" aircraft has responsibility for maintaining flight separation. If the up-sun aircraft loses sight, it will broadcast lost sight and maintain a predictable course. If the "down-sun" aircraft loses sight, it will break off the attack, lag the up-sun aircraft, and broadcast that it has lost sight. If the up-sun aircraft still has sight of the down-sun aircraft and safe separation can be maintained, the up-sun aircraft must immediately broadcast "continue," otherwise a knock-it-off will be initiated.

e. An aircraft pursuing another aircraft in a descent shall monitor the defensive aircraft's altitude/attitude and break off the attack with a turn away prior to either aircraft descending through the applicable altitude deck based on airspeed and angle of attack.

f. Nose-high aircraft on converging flightpaths shall deconflict with the higher nose attitude aircraft going high unless he/she is unable because of energy state or aircraft performance. The low or nose-low aircraft has the responsibility for maintaining flight separation.

g. A lead turn conducted while on converging flightpaths that causes the attacking aircraft to lose sight is prohibited.

h. With an offensive aircraft approaching gun parameters, defensive aircraft shall not dispense flares as part of a gun defense or as a distraction.

i. Fixed wing versus fixed-wing TR:

(1) All fixed-wing, forward-quarter missile attacks (attempts to obtain AIM-9 tone rise or self-track from boresight, or attempts to obtain a radar lock from boresight) within 20° of the target's nose shall be broken off at a minimum of 9,000 feet. Inside 9,000 feet, the pilot's undivided attention shall first be devoted to maintaining flight separation. Inside 9,000 feet, off-boresight missile attacks may be prosecuted down to missile minimum range provided that flight separation has already been established.

(2) Fixed-wing gun attacks will be broken off at a minimum of 1,000 feet so as not to pass any closer than 500 feet to the defensive aircraft. Gun attacks in excess of 135° track crossing angle (approaching head-on) are prohibited.

j. Fixed wing versus helicopter TR:

(1) All aircrew shall have completed initial low-altitude flight training as outlined by appropriate COMNAVAIRPAC, COMNAVAIRLANT COMNAVAIRESFOR, or CMC directives.

(2) Supersonic flight is not authorized.

(3) If aircraft lose sight, they will disengage. Fixed-wing aircraft will climb to at least 3,000 feet AGL. Helicopters will climb to at least 300 feet AGL.

(4) Fixed-wing gun attacks will be broken off at a minimum of 1,000 feet.

k. Helicopter versus helicopter TR:

(1) All aircrew shall have completed initial low-altitude flight training as outlined by appropriate COMNAVAIRPAC, COMNAVAIRLANT, COMNAVAIRESFOR, or CMC directives.

(2) During prebriefed tail chase manèuvers, aircraft will maintain a minimum of 200 feet of separation.

(3) An engagement shall be terminated if all aircrews unintentionally lose sight of each other. The

engagement will not be resumed until all participants have reacquired each other.

(4) No close range helicopter engagement will involve more than two 360° turns.

(5) Pilots should not attempt to counter an adversary's altitude advantage with erratic or excessive climbing maneuvers.

(6) Astern gun attacks will be broken off at a minimum of 500 feet.

5.1.10.4 ACM Communication Requirements. To facilitate positive control of aircraft and provide adequate safety measures, the following shall apply for the conduct of flights involving ACM training:

a. All aircraft participating in ACM must have two-way radio communication. All multiplace aircraft must have an operable intercommunication system (ICS).

b. Guard frequency will be monitored throughout all engagements.

c. A single aircraft engaging another single aircraft will monitor a common radio frequency.

d. Multiple flights:

(1) Flights of two or more aircraft engaging another flight of one or more aircraft may operate on assigned separate frequencies using either of the following control measures: each flight is under positive radar control of separate controllers and a senior air director (SAD) in the supervisory role is monitoring both frequencies, or each flight is under the positive control of separate range training officers (RTOs) or a tactical aircrew combat training system (TACTS) instrumented range. When a potentially dangerous situation develops, a call to "Knock it off/terminate" shall be relayed by the SAD or RTO on both frequencies. TYCOMs can waive this restriction as requirements dictate.

(2) Dual-radio-equipped aircraft may elect to use a discrete intraflight frequency without separate GCI/TACTS control provided one radio is used to monitor the opposing section frequency.

e. Any no-radio (NORDO) aircraft will rock its wings and assume 1g flight to signal loss of communication. Should an aircraft rock its wings or assume a wings-level 1g condition during an encounter, that engagement shall be terminated.

f. Should any aircrewman observe an unsafe or potentially dangerous situation developing, he/she shall announce it by transmitting, "Knock it off/terminate," and shall maneuver appropriately to terminate the engagement.

5.1.10.5 ACM Weather Criteria. All ACM engagements shall be conducted in daylight VMC using the following criteria:

a. ACM will not be conducted into or through an overcast or undercast.

b. The top of the undercast or broken cloud layer is the simulated ground level.

c. Fixed wing versus fixed wing:

(1) ACM shall be conducted with at least 2,000 feet vertical and 1-nm horizontal separation from clouds at all times.

(2) Five miles minimum visibility with a defined horizon.

d. Fixed wing versus helicopter:

(1) ACM shall be conducted with a minimum ceiling of 3,000 feet above ground level (AGL).

(2) Five miles minimum visibility with a defined horizon.

e. Helicopter versus helicopter:

(1) ACM shall be conducted with a minimum ceiling of 1,000 feet AGL.

(2) Three miles minimum visibility with defined horizon.

5.1.10.6 Fixed Wing Versus Fixed-Wing ACM Altitude Restrictions. To ensure standardization and provide an adequate margin of safety, the following restrictions shall apply:

a. No sustained maneuvering shall occur below a 5,000-foot hard deck above the terrain or undercast (e.g., over 4,000-foot terrain or a 4,000-foot undercast, the hard deck shall be adjusted to 9,000 feet). If the terrain or undercast is not of uniform height in the area of engagement, the deck shall be adjusted to reflect the highest terrain/undercast. Aircrew should also brief that visual altitude and attitude cues will not be accurate under these circumstances.

b. High angle of attack (AOA)/slow-speed maneuvering shall be terminated passing through 10,000 feet AGL (soft deck). If the 5,000-foot AGL hard deck has been raised because of an undercast, high AOA/slow speed shall be raised and maneuvering shall be terminated at the appropriate altitude AGL (i.e., with a 4,000-foot AGL undercast, the hard deck shall be 9,000 feet AGL and the soft deck shall be 14,000 feet AGL). An aggressive, nose low, out of plane gun defense maneuver to defeat an attacker's gun solution shall not be executed below the soft deck.

c. Offensive and defensive maneuvering below the 5,000-foot deck shall be conducted in accordance with the following:

(1) For aircrews not low-altitude-flight-training qualified and current in accordance with appropriate service directives, the minimum altitude shall be 500 feet AGL.

(2) For aircrews low-altitude-flight-training qualified and current in accordance with appropriate service directives, the minimum altitude shall be 200 feet AGL.

(3) Functional wing/operational/group commanders may request waivers from such minimum altitudes from COMNAVAIRLANT, COMNAVAIRPAC, COMNAVAIRESFOR, or CMC as appropriate.

(4) When an offensive/defensive relationship is established, the defensive aircraft will react with a wing rock, an extension or separation maneuver, or the continuation of a level or climbing defensive turn of not more than 180° as measured from the heading at the beginning of the turn. The engagement shall also be terminated if a role reversal occurs.

(5) When during the initial maneuvering neither aircraft can be assessed as defensive, the engagement will be terminated when any aircraft has turned a maximum of 180° as measured from the heading at the beginning of the maneuvering.

(6) If the attacking aircraft's initial conversion turn is undetected, the engagement needs not to be terminated until the defensive aircraft reacts and turns a maximum of 180°.

(7) If a low-flying, fixed-wing aircraft wishes to maneuver in excess of 180° of turn, the initial turn shall be made so as to carry him/her above the 5,000-foot deck. Once above 5,000 feet, ACM will only be continued if each aircraft meets the appropriate airspeed and AOA requirement for ACM below the soft deck. Any aircraft not meeting those requirements will terminate ACM.

WARNING

The flightpath behind a low-flying aircraft, co-altitude, should be avoided because of the effects of wake turbulence, jet or propeller wash, and the possibility of ordnance release. In addition, extended maneuvering precipitated by defensive reactions to repeated attacks can result in a depleted energy state such that continued maneuvers are unsafe because of ground proximity.

5.1.10.7 Fixed Wing Versus Helicopter and Helicopter Versus Helicopter ACM Altitude Restrictions

a. No fixed-wing (F/W) high AOA/slow-speed maneuvering below 10,000 feet AGL is allowed.

b. The following are the minimum altitudes for aircraft by type engagement:

Helicopter versus helicopter — 100 feet AGL both aircraft.

Helicopter versus F/W (low attack angle 0° to 10°) — 100 feet AGL, 500 feet AGL respectively.

Helicopter versus F/W (high attack angle greater than 10°) — 100 feet AGL, 1,000 feet AGL respectively.

5.1.10.8 Fixed Wing Versus Fixed-Wing ACM and Ground Attack Interface. The following additional ACM related rules apply to multimission and composite force training where ground attack and escort aircraft may come under attack:

a. Aggressor aircrew will be briefed on target location for any ordnance drops. The briefing will include planned weapon delivery maneuvers and type ordnance, as appropriate. Aggressors shall break off an attack on strike aircraft below 10,000 feet AGL at a minimum of 3 nm prior to the designated target area. In no case will strike aircraft be attacked while executing an ordnance delivery maneuver.

b. Aircraft carrying live external A/G ordnance sha. not engage in ACM. A wing rock or a defensive hard

turn, not to exceed 180°, may be made to acknowledge an attack. Aircraft carrying inert ordnance (including captive carry air-to-ground missiles) may engage in ACM at the discretion of the squadron CO based on weight/drag and specific aircraft performance.

c. Aggressor aircraft will discontinue attack on a strike/escort aircraft following the strike/escort aircraft's wing rock or defensive turn (maximum of 180°).

5.1.10.9 Termination of ACM Engagements

a. ACM shall cease when:

(1) Any training rule is violated.

(2) "Knock it off/terminate" is called by any aircrew or controller.

(3) Any dangerous situation develops or there is a loss of situational awareness.

(4) Any out-of-control flight situation develops.

(5) Radio failure by any aircraft.

(6) Bingo fuel state is reached.

(7) Training objectives have been accomplished.

(8) An unbriefed aircraft enters the engagement area and is detrimental to flight safety.

(9) When an aircraft rocks its wings (fixed or rotary).

b. At the completion of engagement, aircraft shall maneuver appropriately to deconflict with all other aircraft and should extend beyond visual range prior to any reattack, consistent with the briefed training objectives. The intent is to prevent visual repositioning and repeated attacks against defending aircraft that are pursuing a different mission.

c. All ACM participants have responsibility for termination of ACM training engagements when a dangerous or rapidly deteriorating situation is recognized.

d. "Knock it off" means that all participating elements in an exercise will cease maneuvering. "Terminate" applies to individual elements or engagements within an overall exercise and means the individual units involved in a localized engagement will cease maneuvering for that particular engagement without "knocking off" the entire exercise. After "terminating" a localized engagement, the affected aircraft are free to pursue additional missions within the exercise in accordance with prebriefed instructions. "Knock it off" calls shall be acknowledged via UHF radio calls by all participating pilots using individual call signs.

WARNING

High midair collision potential exists following "Knock it off" calls.

5.1.11 Simulated Instrument Flight

5.1.11.1 Chase Aircraft Requirement. A chase aircraft shall be used for all simulated instrument flight in single-piloted aircraft when a vision restricting device is being used. A chase plane shall also be required for simulated instrument flight in multipiloted aircraft if adequate cockpit visual lookout cannot be maintained. Visual lookout is considered adequate:

a. For side-by-side seating configurations, when two crewmen in addition to and having positive communication with the pilot are aboard. One crewman must be in a suitable position to monitor the flight instruments and both crewmen together must be able to clear the aircraft from potential midair collision hazards.

b. For tandem seating configurations, when the vision-restricting device is being used only in the rear seat.

5.1.11.2 Chase Aircraft Position and Communication. The chase plane should fly in a position 500 feet aft and 500 feet to either side of the aircraft being chased so as to ensure clearance in all quadrants. Positive communication must be maintained at all times between the two aircraft and any controlling agency. If communication is lost, the pilot practicing simulated instruments shall immediately go contact and remain contact until positive communication is reestablished.

5.1.11.3 Altitude Limitations. Pilots of single-seat aircraft may not use a vision restricting device below 1,000 feet AGL except on a precision approach. The vision restricting device may be used down to 500 feet AGL. In single-piloted aircraft, with dual sets of flight controls and in multipiloted aircraft, a vision restricting device may be used by one pilot for simulated instrument takeoffs and down to minimums for the approach being flown, provided the other pilot is NATOPS qualified in model. Helicopters equipped with automatic

hover equipment are specifically waived from simulated instrument altitude restrictions during low level ASW/ SAR training, provided the pilot not on the controls is NATOPS qualified in model.

5.1.12 Formation Flying

5.1.12.1 General. Formation flying is authorized only for units and types of aircraft for which a valid requirement exists. Appropriate commanders shall ensure issuance of and adherence to specific instructions and standard operating procedures for all aspects of formation flying.

5.1.12.2 Preflight. The formation leader shall execute one flight plan for the entire formation and shall:

a. Sign the flight plan form as pilot in command.

b. Ensure that all pilots are briefed on en route weather and navigational aids.

c. Ensure that each pilot holds a valid instrument rating if any portion of flight is to be conducted under IMC.

d. Ensure that a flight leader formation brief is conducted to include, but not to be limited to, loss of sight, lost communication, inadvertent IMC, and emergency procedures.

e. Ensure that necessary maps, charts, and publications are in the possession of each pilot.

f. Ensure that formation integrity is maintained in flight.

5.1.12.3 Formation Takeoffs. Section takeoffs for fixed-wing aircraft of similar performance are authorized only for units and types of aircraft whose military missions require formation flying, including essential pilot training. On ground roll, safe lateral separation shall be maintained (in event of blown tire, aborted takeoff, etc.) with leading aircraft on downwind side (if crosswind exists). Differences in flying characteristics, especially stall speeds because of gross weight and/or configuration, shall be considered.

Note

Lateral separation for required minimum interval takeoff (MITO) shall be governed by local directives.

5.1.12.4 Instrument Departures. Two-plane formation for subsequent flight into instrument conditions is authorized provided the weather (ceiling and visibility) is at or above the published circling minimums for the runway in use. In the event a circling approach is not authorized, ceiling and visibility must be at least 1,000 feet and 3 statute miles.

5.1.12.4.1 Radar Trail Departures. For aircraft equipped with operable air-to-air radar capability, formations of up to four aircraft are authorized to depart as a nonstandard formation (radar trail departure) when existing weather conditions are other than prescribed in paragraph 5.1.12.4 and that nonstandard formation has been approved by the ATC Facility responsible for providing instrument separation (i.e., departure control, ARTCC).

5.1.12.5 Joining Formations

a. Unless specifically ordered, a single aircraft shall not join a formation in the air. One formation shall not join another formation. The order for joining formation in the air shall be given prior to takeoff of the aircraft concerned or by radio, and the leader of the formation to be joined shall be informed that the order has been given. Exceptions to this paragraph may be made when the leader of a formation signals another aircraft to join the formation.

b. When about to join a formation, the pilot of a single aircraft or leader of other formations shall approach their formation position from a safe altitude and from the side. They shall not take their final position until their presence has been acknowledged by the leader of the formation to be joined.

c. Whenever a lead change is required in a formation of two or more aircraft, it will be accomplished in an unambiguous manner. Pilots shall ensure that both aircraft exchanging the lead are aware of the change through positive acknowledgment by visual signals or voice transmissions.

5.1.12.6 Approach Criteria for Aircraft in Formation

a. Instrument approaches with or without intent to land in IMC by formations of more than two aircraft are not authorized. Penetration of IMC to obtain VMC by formations of more than two aircraft is authorized.

b. Formation flights shall not commence an instrument approach when the reported weather is less than circling minimums for the runway in use. In the event a circling approach is not authorized, the ceiling and visibility must be at least 1,000 feet and 3 statute miles. Once an approach has been commenced, leaders

AIRSPACE	FLIGHT VISIBILITY	DISTANCE FROM CLOUDS
CLASS A	NOT APPLICABLE	NOT APPLICABLE
CLASS B	3 STATUTE MILES	CLEAR OF CLOUDS
CLASS C	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
CLASS D	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
CLASS E LESS THAN 10,000 FEET MSL	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
AT OR ABOVE 10,000 FEET MSL	5 STATUTE MILES	1,000 FEET BELOW 1,000 FEET ABOVE 1 STATUTE MILE HORIZONTAL
CLASS G 1,200 FEET OR LESS ABOVE THE SURFACE (REGARDLESS OF MSL ALTITUDE)		
DAY, EXCEPT AS PROVIDED IN §91.155(b)	1 STATUTE MILE	CLEAR OF CLOUDS
NIGHT, EXCEPT AS PROVIDED IN §91.155(b)	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE BUT LESS THAN 10,000 FEET MSL		
DAY	1 STATUTE MILE	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
NIGHT	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE AND AT OR ABOVE 10,000 FEET MSL	5 STATUTE MILES	1,000 FEET BELOW 1,000 FEET ABOVE 1 STATUTE MILE HORIZONTAL

Figure 5-1. Basic VFR Flight Minimums

may, at their discretion, continue the approach in formation to the minimums prescribed in paragraph 5.3.4 for the type aircraft being flown.

c. Whenever feasible, aircraft making section instrument penetrations/approaches should transition to landing configuration above the overcast whenever existing weather is below VFR minimums. Aircraft in formation shall not obtain interval by slowing to less than normal approach speed by "S" turning. If safe landing interval cannot otherwise be obtained, a waveoff shall be executed. When landing interval will result in two or more aircraft on the runway at the same time, staggered landings on alternate sides of the runway shall be made. When crosswind conditions dictate or when centerline landings are preferred, landing interval shall be the same as that required for aircraft proceeding independently.

d. Formation approaches by aircraft of markedly different approach performance characteristics are not recommended.

e. Formation touch-and-go landings are prohibited.

5.1.12.7 Dissimilar Formation Flight. Pilots involved should perform a preflight brief delineating all aspects of the pending formation flight. Items to be briefed in addition to those identified above shall include items peculiar to either aircraft community (e.g., limitations/capabilities/hazards affecting the flight/rendezvous/joinup/separation).

5.1.12.8 Unplanned Formation Flight. In the event unscheduled formation flight becomes necessary, every attempt shall be made by the aircrew involved to conduct a sufficient in-flight brief prior to joinup.

5.2 VISUAL FLIGHT RULES PROCEDURES

5.2.1 Compliance With Directives. The pilot in command shall ascertain that the contemplated flight can be conducted in accordance with the visual flight requirements of FAR, other governing regulations, and flight rules set forth in this instruction. Visual meteorological conditions are the flight weather conditions that permit military aircraft operations under VFR. If weather conditions are not VMC, military aircraft operations must be either under special VFR or IFR (excluding special military operations).

5.2.2 Judgment. Although the choice of flight rules to be followed is normally dictated by weather and mission considerations, sound judgment plays a most important role. There are occasions when VFR may be legally followed by applying the appropriate visibility and cloud clearance criteria. That prerogative should be exercised with reasonable restraint. The established weather criteria are minimums. The pilot should allow a greater margin of safety when operational requirements permit, particularly in terminal areas or when reduced visibility or cloud conditions make flight under VFR questionable. Pilots shall file and retain an IFR clearance to the maximum extent practicable consistent with mission accomplishment.

5.2.3 See and Avoid. The see-and-avoid concept applies to visual flight conditions, thus eliminating the need for specific route clearance from ATC agencies under most circumstances. Since pilots are responsible for their own separation from other aircraft, conditions must exist that permit ample opportunity to see and avoid other air traffic and maintain obstruction clearance. The following measures shall serve as additional precautions when separation is maintained through the see-and-avoid concept, provided no degradation of the assigned mission will result.

a. Excepting single-seat aircraft, electronic equipment such as airborne radar should be used where feasible.

b. Where available, radar advisory service shall be requested especially when VFR flight is required through high-density traffic areas.

5.2.4 Weather Minimums. Within airspace where FAR, Part 91, pertains, cloud clearance and visibility minimums shown in Figure 5-1 shall prevail throughout a VFR flight. In addition, ceiling and visibility minimums within Class B, C, D, or E surface areas must be at least 1,000 feet and 3 statute miles. If more stringent VFR minimums have been established for the point of departure or destination, as noted in the supplementary airport remarks section of the DOD FLIP AP/1, AP/2, AP/3, or AP/4 then ceiling and visibility must be at or above those minimums in the applicable Class B, C, D, or E surface area. Existing and forecast weather must be such as to permit VFR operations for the entire duration of the flight. Destination weather shall be at least 1,000-foot ceiling and 3-statute mile visibility (or such higher minimums as noted in the supplementary airport remarks section of the DOD FLIP AP/1, AP/2, AP/3, or AP/4) and forecast to remain at or above those minimums during the period 1 hour before ETA until 1 hour after ETA. Exceptions to the minimums are as follows:

a. Deviations under FAR 91.157, Special VFR Weather Minimums, are permitted except at those airports where special VFR is not authorized in fixed wing aircraft. For special VFR within controlled airspace, the pilot must obtain authorization from air

traffic control; ceiling must be a minimum of 500 feet; visibility must be a minimum of 1 statute mile; aircraft must remain clear of clouds, and the pilot and aircraft must be certified for instrument flight. Aviation commanding officers in the chain of command may authorize helicopter special VFR flights in conditions below 500 feet/1 mile for missions of operational necessity. The authority granted by this paragraph shall not be delegated.

b. Outside of controlled airspace, helicopters may be operated below 1,200 feet AGL, clear of clouds, when the visibility is less than 1 statute mile if operated at a speed that allows the pilot adequate opportunity to see and avoid other air traffic and maintain obstacle clearance.

Note

FLIP General Planning, Chapter 6 (International Rules and Procedures), outlines the general flight rules for operation of military aircraft in airspace where FAR 91 does not apply.

5.2.5 Weather Conditions Precluding VFR Flight. When weather conditions encountered en route preclude compliance with visual flight rules, the pilot in command shall take appropriate action as follows to:

a. Alter route of flight so as to continue under VFR conditions or

b. Remain in VFR conditions until a change of flight plan is filed and IFR clearance obtained or

c. Remain in VFR conditions and land at a suitable alternate.

5.2.6 Additional Requirements

a. Except when necessary for takeoff and landing or when the mission of the flight requires otherwise, flights in fixed-wing aircraft shall not be conducted below an altitude of 500 feet above the terrain or surface of the water.

b. For aircraft to operate on a VFR clearance above "broken clouds" or an "overcast," climb to and descent from such "on top" flight shall be made in accordance with VFR and aircraft shall be equipped and pilots qualified for instrument flight.

c. A simulated instrument approach to an airport for which an approved instrument approach exists shall not be commenced until prior approval has been obtained from the appropriate approach control or, in the case of nonapproach control locations, the airport traffic control tower. At nontower airports, the associated flight service station, if applicable, shall be notified of the simulated instrument approach.

5.3 AIRCRAFT EQUIPMENT REQUIREMENTS

5.3.1 General Requirements

5.3.1.1 IFR Filing and Positive Control. To decrease the probability of midair collisions, all flights in naval aircraft shall be conducted in accordance with IFR to the maximum extent practicable. This shall include all point-to-point and round-robin flights using Federal airways and other flights or portions thereof, such as flights to and from target or operating areas accessible through IFR filing. All other flights shall be conducted under positive control to the maximum extent possible. This shall apply in the following areas:

a. In the airspace over the United States and adjacent coastal waters within the 12-mile limit.

b. Within offshore operating areas of CONUS and Alaska outward to the limit of the domestic Air Route Traffic Control Center (ARTCC), airspace in the Hawaiian Islands, and in the San Juan Domestic Control Area.

c. Airspace in the vicinity of other U.S. territories and overseas airfields as prescribed by local area commander policies.

Note

- Commanding officers shall ensure compliance with the intent and spirit of this *requirement and shall scrutinize all flight* operations as to mission and purpose to assure they are conducted in accordance with IFR or positive control to the maximum extent practicable without mission degradation.

- Global positioning system (GPS) shall not be used as the means of navigation to file or fly in the national airspace system unless that aircraft has been certified for GPS use in the National airspace systems.

- Aircrew operating in visual conditions under IFR should be aware that they are in a "see and avoid" environment. ATC provides separation only from other IFR aircraft.

5.3.1.2 Waiving IFR Requirement. Where VFR conditions exist, pilots may waive this requirement for specific flights when necessary to circumnavigate or otherwise avoid severe weather or when dictated by an in-flight emergency.

5.3.1.3 ATC Clearance Requirement. Flights shall not be made in IFR conditions within controlled airspace until an ATC clearance has been obtained.

5.3.1.4 Instrument or Composite Flight Plan. An instrument or composite (VFR/IFR) flight plan shall be filed for all flights that may reasonably expect to encounter in-flight IFR conditions during any portion of the planned route. The VFR portion of the flight shall meet VFR criteria set forth in paragraph 5.2.

5.3.1.5 Compliance With Directives. The pilot in command shall ascertain that the clearance requested is in accordance with the instrument flight requirements of FAR, other governing regulations, and flight rules set forth in this instruction.

5.3.1.6 Minimum Altitude

a. When out of controlled airspace and only when the mission of the flight requires otherwise, an aircraft shall not be flown less than 1,000 feet above the highest terrain, surface of the water, or obstacle within 22 miles of the intended line of flight.

b. When out of controlled airspace and over designated mountainous terrain, as shown in appropriate DOD FLIPs, an aircraft shall not be flown less than 2,000 feet above the highest terrain or obstacle within 22 miles of the intended line of flight.

c. In controlled airspace, an aircraft shall not be flown at less than the minimum en route altitude or the altitude specified by the agency exercising control over the airspace concerned when operating in IFR conditions.

d. Authorized missions may be flown at lower altitudes than specified above when operating on published IFR military training routes (IRs) that have been developed in accordance with OPNAVINST 3722.33 (FAA Order 7610.4, Special Military Operations).

5.3.2 Aircraft Equipment Requirements. Preflight procedures will be established and monitored to assure that communication, navigation, and identification equipments required for the flight are operative at takeoff. Preflight/in-flight malfunctions of such equipment shall be construed as adequate cause to cancel/abort missions other than those of operational necessity. The pilot shall ensure that ATC is advised of any limitations of the pilot's aircraft and equipment that will necessitate special handling.

5.3.2.1 Instrument Flight Equipment

a. The pitot heater and all vacuum pressure or electrical sources for the pilot flight instruments must operate satisfactorily.

b. The aircraft shall be equipped with the following instruments in proper operating condition:

(1) Airspeed indicator

(2) Altimeter

(3) Turn-and-slip indicator

(4) A clock displaying hours, minutes, and seconds with a sweep-second pointer or digital readout

(5) Attitude indicator

(6) Magnetic compass with current calibration card

(7) Heading indicator or gyrostabilized magnetic compass

(8) Vertical speed indicator.

c. Aircraft shall be equipped with deicing or icing control equipment for sustained or continuous flight in known or forecast icing conditions.

d. Navigation lights must operate satisfactorily.

5.3.2.2 Communication, Navigation, Identification (CNI) Equipment

a. The aircraft shall have two-way radio communication equipment and operating navigation equipment required for the en route and approach navigation aids to be used and on which the clearance is predicated.

b. Pilots planning to operate in or through areas that require special communication frequencies shall ensure that the frequencies are available in the aircraft.

c. A functioning radar beacon transponder is required for flight in airspace where FAR specify such equipment.

d. When operating with a servoed altimeter below FL 180, use either the STANDBY or RESET mode and use only the RESET mode when operating above FL 180.

5.3.2.3 Instrument Navigation Packet. The following items constitute the minimum required articles to be included in instrument navigation packets. Additional items may be included when required by local operating procedures.

a. Appropriate FLIPs

b. Navigation computer

c. Navigation flight log forms

d. Appropriate aeronautical charts.

5.3.3 Instrument Departures

5.3.3.1 Takeoff Minimums

a. Special instrument rating — No takeoff ceiling or visibility minimums apply. Takeoff shall depend on the judgment of the pilot and urgency of flights.

b. Standard instrument rating — Published minimums for the available nonprecision approach, but not less than 300-foot ceiling and 1-statute mile visibility. When a precision approach compatible with installed and operable aircraft equipment is available, with published minimums less than 300/1, takeoff is authorized provided the weather is at least equal to the precision approach minimums for the landing runway in use, but in no case when the weather is less than 200-foot ceiling and 1/2-statute-mile visibility/ 2,400-foot runway visual range (RVR).

5.3.3.2 Standard Instrument Departure (SID). At locations where SIDs are available, pilots are encouraged to utilize them for each IFR departure, provided no unacceptable flight degradation will ensue. An appropriate SID procedure should be selected during preflight planning for pilots to realize the greatest benefit from standardization of instrument departures and to have a clear course of action to follow in the event of communication failure.

Note

For formation instrument departures and approach procedures, see paragraph 5.1.9.

5.3.4 Instrument Approaches and Landing Minimums

5.3.4.1 General. Approved instrument approach procedures for use at other than U.S. airports are published in DOD FLIPs (Terminal). For U.S. airports, approved instrument approach procedures are published in DOD FLIPs (Terminal) or other similar type publications. For straight-in approaches, pilots shall use RVR, if available, to determine if visibility meets the weather criteria for approaches, which are published in DOD FLIP Terminal Approach Procedures. Prevailing visibility shall be used for circling approach criteria. Helicopter-required visibility minimum may be reduced to one-half the published visibility minimum for Category A aircraft, but in no case may it be reduced to less than one-fourth mile or 1,200 feet RVR. Helicopter procedures visibility may not be reduced. Helicopter procedures and reduced Category A visibility recognize the unique maneuvering capability of the helicopter and are based on airspeeds not exceeding 90 knots on final approach.

Note

Determination that existing weather/visibility is adequate for approach/landing is the responsibility of the pilot.

5.3.4.2 Approach Criteria for Multipiloted Aircraft. When reported weather is at or below published landing minimums for the approach to be conducted, an approach shall not be commenced in multipiloted aircraft unless the aircraft has the capability to proceed to a suitable alternate in the event of a missed approach.

5.3.4.3 Approach Criteria for Single-Piloted Aircraft

a. An instrument approach shall not be commenced if the reported weather is below published minimums for the type approach being conducted. When a turbojet en route descent is to be executed, the approach is considered to commence when the aircraft descends below the highest initial penetration altitude established in high altitude instrument approach procedures for the destination airport. Once an approach has been commenced, pilots may, at their discretion, continue the approach to the approved published landing minimums as shown in the appropriate FLIP for the type approach being conducted. Absolute minimums for a single-piloted aircraft executing a precision approach are 200-foot ceiling/height above touchdown (HAT) and visibility 1/2-statute-mile/ 2,400 feet RVR or published minimums, whichever is higher.

b. Single-piloted aircraft that are configured for and assigned all-weather missions with side-by-side seating occupied by the pilot in command and an assisting NFO may operate within the same filing, clearance, and approach criteria specified above for multipiloted aircraft provided:

(1) The assisting NFO is instrument qualified in accordance with this instruction and NATOPS qualified in the model aircraft in which NFO duties are being performed.

(2) Cockpit configuration is such that the assisting NFO can:

(a) Monitor the pilot flight instruments

(b) Monitor and control communication

(c) Assist the pilot in acquiring the runway visually.

5.3.4.4 Criteria for Continuing Instrument Approaches to a Landing. Pilots shall not descend below the prescribed minimum descent altitude (MDA) or continue an approach below the decision height (DH) unless they have the runway environment in sight and in their judgment a safe landing can be executed, either straight-in or from a circling approach, whichever is specified in their clearance.

a. Precision Approaches — A missed approach shall be executed immediately upon reaching the decision height unless the runway environment is in sight and a safe landing can be made. On precision radar approaches, the pilot may expect control instructions until over landing threshold; course and glidepath information given after decision height shall be considered advisory in nature.

b. Nonprecision Approaches — A missed approach shall be executed immediately upon reaching the missed approach point if visual reference is not established and/or a landing cannot be accomplished. If visual reference is lost while circling to land from a published instrument approach, the missed approach specified for that particular procedure must be followed. To become established on the prescribed missed approach course, the pilot should make an initial climbing turn toward the landing runway and continue the turn until he/she is established on the missed approach course.

5.3.4.5 Final Approach Abnormalities During Radar Approaches. The controller shall issue instructions to execute a missed approach or to climb and maintain a specific altitude and fly a specified course whenever the completion of a safe approach is questionable because one or more of the following conditions exist:

a. Safe limits are exceeded or radical aircraft deviations are observed.

b. Position or identification of the aircraft is in doubt.

c. Radar contact is lost or a malfunctioning radar is suspected.

d. Field conditions, conflicting traffic, or other unsafe conditions observed from the tower prevent approach completion.

5.3.4.6 Execution of the Missed Approach

a. Execution of the missed approach by the pilot is not necessary for conditions a, b, or c above if the pilot has the runway or approach/runway lights in sight. In these cases, controller phraseology shall be: (reason). If runway/approach lights/runway lights are not in sight, execute missed approach (alternate instructions). Reasons may include "radar contact lost," "too high/low for safe approach," or "too far right/left for safe approach."

b. Execution of the missed approach is mandatory for condition d above. Controller phraseology is "Execute missed approach," and the reason for the order (i.e., "Aircraft ahead of you has taken the arresting gear"); or the controller may issue instructions to climb and maintain a specific altitude and fly a specified heading and the reason for such instructions.

Note

Pilots may execute a missed approach at their own discretion at any time.

5.3.4.7 Practice Approaches. The provisions of this section are not intended to preclude a single-piloted aircraft from executing practice approaches (no landing intended) at a facility where weather is reported below published minimums when operating with an appropriate ATC clearance. The facility in question must not be filed destination or alternate and the weather at the filed destination and alternate must meet the filing criteria for an instrument clearance as set forth in this instruction.

5.3.4.8 Tower/Approach Control Responsibilities. A Navy or Marine Corps tower/approach control facility serving an airport shall keep the pilot informed of the latest reported weather and actual field conditions. Every effort shall be made to inform the pilot as well as the controller (in case of radar approaches) of the most current ceiling, runway visibility, surface wind, and runway conditions. That is particularly important during periods of rapidly changing weather conditions such as fog, snow, and other phenomena that reduce visibility and braking action.

Note

Certain naval air traffic controllers certified in accordance with the guidance contained in NATOPS Air Traffic Control Facilities Manual are authorized to record and disseminate changing tower visibility observations directly to the pilot when prevailing visibility is less than 4 miles.

5.4 HELICOPTER/TILT-ROTOR OPERATIONS

5.4.1 Helicopter/Tilt-Rotor Operations in Class B, C, or D Airspace

5.4.1.1 Tower Clearance. When operating within class B, C, or D airspace, either tower frequency or an appropriate control frequency shall be monitored at all times.

5.4.1.2 Autorotations. Practice autorotations shall be conducted within the limits of the field boundary over a surface upon which a full autorotation can be safely completed and that is readily accessible to crash, rescue, and firefighting equipment. Practice autorotations shall require the specific approval of the tower.

5.4.1.3 Altitude. Helicopter/tilt-rotor flights within class B, C, or D airspace shall be in accordance with the local Air Operations Manual. Where no other guidance is provided, pilots shall not exceed 500 feet AGL unless specifically cleared by the tower or other control agency. Pilots shall avoid flying over areas at altitudes where their rotor wash could result in damage to aircraft, property, or personnel.

5.4.1.4 Ground Operations. Air taxi/ground operations shall be conducted with sufficient horizontal separation to preclude damage to aircraft, property, or personnel. Pilots shall operate with the minimum required power while on the ground and shall be particularly alert to prevent foreign object damage (FOD) and/or gust damage to their own and other aircraft.

5.4.2 Helicopter/Tilt-Rotor Terrain Flight Operations. Helicopter terrain flights (low level, contour, nap of the Earth (NOE)) shall be conducted only as operational necessity dictates, in training scenarios executed within designated training areas, or as published procedures and clearances prescribe.

5.4.3 Helicopter/Tilt-Rotor Night Hover Operation Over Water. Night/low visibility hover operations over water shall be conducted using aircraft equipped with operable automatic hover systems (i.e., coupler/Doppler/AFCS equipment) on all occasions when a natural horizon visible from the cockpit is not available to assist the pilot in establishing/maintaining a stable hover.

5.5 REDUCING FLIGHT-RELATED DISTURBANCES

5.5.1 Annoyance to Civilians and Endangering Private Property. Flights of naval aircraft shall be conducted so that a minimum of annoyance is experienced by persons on the ground. It is not enough for the pilot to be satisfied that no person is actually endangered. Definite and particular effort shall be taken to fly in such a manner that individuals do not believe they or their property are endangered. The following specific restrictions apply in view of the particularly unfavorable effect of the fear, extreme annoyance, and damage that can be inflicted.

5.5.1.1 Noise Sensitive Areas. Breeding farms, resorts, beaches, and those areas designated by the U.S. Department of Interior as national parks, national monuments, and national recreational areas are examples of noise sensitive areas.

5.5.1.2 Noise Sensitive and Wilderness Areas. These areas shall be avoided when at altitudes of less than 3,000 feet AGL except when in compliance with an approved:

a. Traffic or approach pattern

b. VR or IR route

c. Special use airspace.

Noise sensitive areas shall be avoided in the development of IR and VR routes and additional special use airspace unless the 3,000-foot criteria can be observed.

5.5.1.3 Aerial Refueling. Aerial refueling over densely populated areas shall be avoided whenever possible.

5.5.1.4 External Stores/Cargo. Pilots carrying external stores/cargo shall avoid overflying populated areas whenever possible.

5.5.1.5 Temporary Flight Restrictions. Aircraft shall not be operated within an area designated by a NOTAM within which temporary flight restrictions apply except as permitted in FAR 91.137.

5.5.1.6 Flat Hatting. Flat hatting or any maneuvers conducted at low altitude and/or a high rate of speed for thrill purposes over land or water are prohibited.

5.5.2 Disturbance of Wildlife

5.5.2.1 General. Commanding officers of aviation units shall take steps to prevent aircraft from frightening wild fowl or driving them from their feeding grounds. When it is necessary to fly over known wild fowl habitations, an altitude of at least 3,000 feet shall be maintained, conditions permitting. During hunting season, pilots shall avoid flying near wildlife haunts except as noted above.

5.5.2.2 Firing. Firing at large fish, whales, or any wildlife inhabiting the land or sea is prohibited.

5.5.3 Zooming of Vessels. Restrictions on zooming are not intended to hamper standardized shipping/ASW surveillance rigging and photography procedures as defined in appropriate fleet operating instructions.

5.5.4 Avoidance of Commercial Carriers and Aircraft of Civil Registry. At a minimum, such aircraft shall be avoided by a margin of at least 500 feet vertically or 1 mile laterally unless ordered otherwise by competent air traffic control authority. Under no circumstances shall aircraft be flown erratically or aerobatically in the close vicinity of civil aircraft. Civil aircraft carrying 10 or more passengers are equipped with Traffic Alert and Collision Avoidance System (TCAS). TCAS may activate when it detects an aircraft within 1,200 feet vertically, and 6 nm horizontally. If the passenger-carrying is not aware of the traffic's intentions or does not have the traffic in sight, the passenger-carrying aircraft may take abrupt, evasive actions in response to a TCAS Resolution Advisory. This could cause injury to those on board the passenger-carrying aircraft. TCAS is activated by transponder when aircraft are squawking mode "S" or "C." TCAS provides a protected volume of airspace around an aircraft. The dimensions of this airspace are not based on actual distance but rather on the time to closest point of approach (CPA). Thus, the size of the protected volume depends on relative closure rate. Generally, the system begins to alert the flightcrew of a potential conflict when targeted aircraft are within 6 nm and 1,200 feet vertically of the TCAS-equipped aircraft. The system is designed to operate out to a maximum of 14 nm and identifies possible conflicting air traffic in three basic ways:

a. Tracking — TCAS alerts the crew to all targets (transponder equipped) within range of the TCAS equipment.

b. Traffic Advisory (TA) — TCAS declares a targeted aircraft an intruder. The flightcrew is alerted that vertical separation will be less than 1,200 feet at CPA.

c. Resolution Advisory (RA) — TCAS declares a targeted aircraft as a threat. The crew is commanded to change the altitude of their aircraft to provide vertical separation from the targeted aircraft.

5.5.5 Avoidance of Installations Important to Defense. Although a "special use airspace" designation has not been assigned to all ammunition depots, magazines, oil refineries, and other plants considered important to national defense, naval aircraft shall avoid flying over such areas when their location is known.

5.5.6 Jettisoning Fuel. Whenever practicable, fuel shall not be jettisoned (dumped) below an altitude of 6,000 feet above the terrain. Should weather or emergency conditions dictate jettisoning at a lower altitude, every effort shall be made to avoid populated areas. When under positive control, the pilot in command should advise the air traffic control facility that fuel will be jettisoned.

5.5.7 Air-to-Air Missile Training Flights. Aircraft carrying live missile components other than guidance and control heads are prohibited from utilizing piloted aircraft as targets for training unless all participants have been thoroughly briefed on the conduct of the flight.

5.5.8 Expenditure of Airborne Stores Through Extensive Cloud Cover

5.5.8.1 Naval Commands. Pilots of Navy and Marine Corps aircraft are only authorized to expend ordnance, fire missiles, or drop other airborne stores through cloud cover sufficiently extensive to preclude visual clearance of the air and surface area under the following conditions:

a. When operating over the high seas, provided area air and surface clearance can be ensured through radar surveillance or visual means. The operational commander conducting the exercise is responsible for the safeguarding of airborne and surface traffic.

The fact that the firing is conducted in a warning area or that a NOTAM has been issued does not relieve the operational commander of his/her responsibility.

b. When operating over land (including over territorial waters), provided that the firing or drop is conducted within an activated restricted area and the impact is within a designated surface target/range. The restricted area controlling authority must specifically approve such usage and is responsible for coordination of airspace and target/range scheduling to ensure protection of other restricted area users and target/range personnel. The operational commander conducting the exercise is responsible for ensuring the firing or drops are conducted in the specified airspace and impact the scheduled surface target/range.

5.5.8.2 Nonnaval Commands. Nonnaval commands may be authorized to expend ordnance in restricted or warning area airspace for which Navy or Marine Corps commands are designated controlling authority, provided the criteria specified above are observed and the using service, by written agreement, assumes complete responsibility for any damages resulting from such use.

5.5.8.3 Emergency Jettisoning. Nothing in the above precludes emergency jettisoning of external stores through extensive cloud cover; pilots are directly responsible for their actions and must take every possible precaution to minimize danger to other aircraft and persons/property on the surface.

5.6 FLAMEOUT APPROACHES

5.6.1 Actual Flameout Approaches. Actual flame-out approaches shall not be attempted unless it is impossible/impractical to abandon the aircraft.

5.6.2 Simulated Flameout Approaches. Simulated flameout approaches are prohibited.

5.7 FLIGHT OPERATIONS WITH NIGHT VISION DEVICES

5.7.1 General. NVDs greatly expand the capability and survivability of night tactical flight profiles flown against modern threats. Flying with NVDs is authorized for units and types of aircraft for which a valid requirement exists. Appropriate commanders shall ensure issuance of and adherence to specific instructions and standard operating procedures for all aspects of NVD flying.

5.7.2 Operating Limitations

a. NVD operations using image intensifying devices, such as AN/PVS-5, AN/AVS-6, or MXU-810/U (CATSEYEs), shall be conducted in VMC. Flight in IMC for purposes of conducting standard instrument departures and instrument approaches is permitted while under positive radar control. Entering IMC during VFR training is prohibited. Inadvertent IMC procedures shall be briefed for all NVD flights.

b. Aircraft interior lighting should be NVD compatible to the maximum extent possible.

c. Aircraft exterior lighting shall comply with applicable FAA regulations unless exemptions have been approved. However, the anticollision lights need not be lighted when the pilot in command determines that, because of operating conditions, it would be in the interest of safety to turn the lights off. In restricted areas, position lights of multiaircraft flights of up to four aircraft on NVDs may fly with lead through dash three's navigation and anticollision lights off. If applicable, formation and blade tip lights shall be on at the highest intensity consistent with NVD compatibility. The last aircraft in each flight shall have navigation lights on at the highest intensity consistent with NVD compatibility and anticollision lights on.

d. Minimum illumination requirements shall be established by CNO/CMC for the conduct of NVD training flights/missions. The approved methods of deriving illumination levels are the NVD Light Level Planning Calendar computer program or as determined by a CNO/CMC-approved study of the illumination level under various conditions. Illumination levels must be tempered with sound judgment and the effects of cloud cover, humidity, haze, dust, low moon angles, etc., considered. For characterization purposes, low light as used in Appendix H, page H-3, is defined as light level less than 0.0022 lux. Other than low light is defined as light level greater than or equal to 0.0022 lux.

e. NVD aircrews shall complete an approved NVD training syllabus and be certified by the commanding officer with a NATOPS flight qualification jacket entry for NVD operations. Training should include demonstrations of the limits to NVD capabilities imposed by environmental conditions and human factors. Attendance at a Night Imaging and Threat Evaluation (NITE) Lab is strongly recommended.

f. NVD instructors shall complete an approved NVD IUT training syllabus and be certified by the

commanding officer with a NATOPS flight qualification jacket entry for NVD instructional flights.

g. NVD-designated aircrew shall meet currency requirements as specified in the individual aircraft NATOPS manual, functional wing directives, and/or the USMC Aviation Training and Readiness manual (MCO 3500.14). Qualification/currency requirements may vary for different mission areas, (i.e., shipboard operations, overland navigation, NOE navigation, strike rescue, etc.) and should be identified in the appropriate manual/instruction. Simulators may be used to support the training program, but shall not replace aircraft flight hour requirements.

h. For NVD training syllabus flights, the pilot in command (PIC) shall be current for the mission. For all other flights, both the PIC and copilot shall meet appropriate currency requirements.

i. Mixing of NVDs between aircrew within the same aircraft (all crew positions) and between aircraft in the same section or division should be limited to the maximum extent possible while not impacting operational capability or flight safety. Specifically, the following NVD/aircraft configuration guidelines shall be implemented:

(1) For rotary wing/assault support aircraft and AN/AVS-6 NVDs:

(a) Mixing omnibus-IV image intensifier tubes with either omnibus-III, -II, or earlier production image intensifier tubes within the same NVD is not authorized.

(b) Mixing of omnibus-IV AN/AVS-6 NVDs and omnibus-II AN/AVS-6 NVDs within the same rotary wing/assault support aircraft (all crew positions) and between rotary wing/assault support aircraft in the same section or division is not authorized.

(c) Mixing of either omnibus-II and -III AN/AVS-6 NVDs or mixing of omnibus-III and omnibus-IV AN/AVS-6 NVDs within the same rotary wing/assault support aircraft in the same section or division is authorized. However, this will require that aircrew possess the capability to identify the specific AN/AVS-6 omnibus NVD configuration being flown to facilitate appropriate mission planning.

(2) For TACAIR aircraft and MXU-810/U (CATSEYE) or AN/AVS-9 NVDs:

(a) Mixing of AN/AVS-9 and MXU-810/U NVDs within the same aircraft (all crew positions) or between aircraft in the same section is not authorized for missions incorporating low altitude tactics (operating at less than 500 feet AGL).

(b) Mixing of AN/AVS-9 and MXU-810/U NVDs within the same aircraft (all crew positions) or between aircraft in the same section is authorized above 500 feet AGL. Priority for AN/AVS-9 use shall be afforded to pilots or crewmembers that have the capability for direct control input to aircraft.

j. Shipboard and ground operation involving groundcrews using NVDs shall be dictated by the platform NATOPS manual (i.e., CV NATOPS, LPH/LHA/LHD NATOPS) or the applicable NWP.

5.8 OPERATION OF UNMANNED AERIAL VEHICLES (UAVs)

5.8.1 General Precautions. The operation of UAVs shall be conducted with due consideration of the potential hazard presented when they are out of control. Whenever practicable, UAVs shall be operated at such an altitude and on such paths that danger to personnel and property on the surface is reduced to a minimum. In operating UAVs, due consideration shall be given to avoiding other aircraft in flight.

5.8.2 Specific Operating Limitations

a. In planning and conducting the flightpath to, in, and from operating areas, all activities operating UAVs shall select and adhere to those tracks and altitudes that completely minimize the possibility of UAVs falling into a congested area in the event of electronic or material malfunction.

b. Aerobatics shall not be performed unless required for operational exercises of test or evaluation of operational designs.

5.8.3 Displays and Demonstrations. Participation of UAVs in public demonstrations, except for static display, is prohibited unless expressly authorized by CNO.

5.8.4 Overall Use and Control. Subject to the foregoing instructions and insofar as is practicable, the use and control of UAVs shall be the same as for piloted aircraft.

CHAPTER 6

Air Traffic Control

6.1 APPLICABILITY

This chapter supplements the sources listed in paragraph 1.2 and provides additional rules and procedures of particular importance for the operation and control of naval aircraft.

6.2 AIR TRAFFIC CONTROL PROCEDURES

6.2.1 Authorized Personnel. Only personnel properly qualified in accordance with the NATOPS Air Traffic Control Facilities Manual shall exercise control over aircraft exclusive of actual/simulated shipboard or tactical operations under the control of non-ATC certified personnel.

6.2.2 Control Tower. At airfields with an operating control tower, the control tower shall exercise control of all aircraft operating to, from, or on the airfield and within class B, C, or D surface area. Prior approval from the tower shall be obtained for all taxi, takeoff, landing, towing, and related operations. Preventive control may be provided to eliminate repetitious, routine approval of pilot action; in that case, the controller will issue instructions or advice only if a situation develops that needs corrective action. Prior to preventive control service being provided, appropriate directives shall be issued to ensure that affected ATC personnel and aircraft operators being afforded preventive control are aware of the procedures being used.

6.2.3 Control of Formation Flights

a. Formation flights shall be controlled/cleared as a single aircraft unless the formation leader requests otherwise.

b. Responsibility for landing interval between elements of a formation flight rests with the pilots in the formation.

6.2.4 Taxi Instructions

a. Taxi Clearance — Taxi clearance shall be obtained prior to taxiing. Formation leaders may obtain taxi clearance for their entire flight. A clearance to "taxi to" the runway authorizes the aircraft to cross all runways/taxiways that the taxi route intersects except the assigned takeoff runway. This does not authorize the aircraft to "enter" or "cross" the assigned takeoff runway at any point. Ground control shall clear aircraft from the parking area to the warmup areas. Pilots shall read back all "hold/hold short" instructions received during taxi. Aircraft shall remain on ground control while in the warmup area until cleared to change frequency or until ready for takeoff clearance.

b. Overtaking — No taxiing aircraft shall overtake or pass another aircraft except with tower approval.

c. Taxi Speed — All aircraft shall be taxied at a safe rate of speed and under positive control of the pilot at all times.

d. Emergencies — When the tower is controlling an aircraft in an emergency, aircraft on the ground shall taxi clear of the runway. Those on the taxiway shall hold until authorized to proceed. All aircraft shall exercise radio discipline for the duration of the emergency. Pilots of taxiing aircraft sighting emergency vehicles displaying the flashing red light on the field shall stop and hold their positions until authorized to proceed by radio or light signals from the tower.

6.2.5 Departure Instructions

a. ATC Clearance — Aircraft departing on IFR flight plans will receive their ATC clearance on ground control or designated clearance delivery frequency. Departing pilots shall read back clearances differing from the filed flight plan.

b. Takeoff Clearance — Aircraft shall hold well clear of the duty runway until cleared by the tower for takeoff or position and hold, and the aircrew have ensured that there is no conflicting traffic for runway use. Pilots shall read back "position and hold" and "hold short" instructions. When cleared for takeoff, aircraft shall take off without undue delay or clear the duty runway.

c. Unrestricted Climb — An unrestricted climb may be authorized for such reasons as noise abatement, fuel conservation, reduction of icing, or elimination of traffic conflicts. An unrestricted climb is authorization to climb directly to a cruise/en route altitude without an interim stop. It does not relieve the pilot of the responsibility to comply with applicable FARs, aircraft NATOPS and wing/squadron doctrine.

d. Frequency Changes — Single-piloted aircraft shall not be required to change radio frequency and/or transponder code settings until reaching an altitude of 2,500 feet above surface except when the aircraft is to level off and operate at an altitude below 2,500 feet. In that event, changes will be made after level off.

e. Intersection Takeoff — Pilots may be cleared either at controller discretion or at pilot request for intersection takeoff to expedite aircraft departures and reduce delays. When clearing an aircraft for an intersection takeoff, controllers shall issue the measured usable runway remaining unless otherwise provided in local directives. Where intersection takeoffs are a routine operation, issuance of measured usable runway remaining information may be omitted if appropriate directives are issued to ensure that affected aircraft operators and ATC personnel are aware of the procedures being used. Pilots still retain the prerogative to use the full runway length, provided they inform the tower of their intentions. It is the pilot's responsibility to determine that sufficient runway length is available to permit a safe takeoff under existing conditions.

6.2.6 Minimum Fuel. Minimum fuel is an advisory term indicating that in the judgment of the pilot the fuel state is such that no undue delay can be accepted en route to the destination. It is not an emergency situation, but undue delay may result in an emergency. If at any time the remaining usable fuel supply suggests the need for traffic priority to ensure a safe landing, the pilot shall declare an emergency and report fuel remaining in minutes. Both minimum fuel advisories and emergency fuel state shall be reported each time control is transferred to a new controller.

Note

Pilots declaring minimum fuel should not expect special handling from FAA controllers.

6.2.7 Handling of VIP Aircraft

a. Priority — Although priority is not normally given to VIP aircraft, controllers may give consideration to such aircraft provided safety of other aircraft is not affected. Controllers shall not request priority from FAA for VIP flights.

b. Estimated Time of Arrival — Persons charged with meeting and making arrangements for VIP flights may be embarrassed if such a flight arrives prior to the ETA. Every effort should be made to provide updated ETAs to interested parties. Except in unusual circumstances, pilots of VIP flights should not arrive prior to the ETA.

6.2.8 Approach Instructions. Single-piloted aircraft arriving on an IFR flight plan shall be provided single frequency approach (SFA) to the maximum extent that communications capabilities and traffic will permit. Those activities without SFA capabilities shall keep frequency and/or transponder code shifts to an absolute minimum below 2,500 feet above the surface.

6.3 LANDING INSTRUCTIONS

a. VFR Arrivals — Contact the appropriate controlling agency (e.g., approach control, tower, etc.) prior to entering Class B, C, or D airspace. Notify the controlling agency as soon as possible after initial contact of special handling requirements (e.g., hung ordnance, etc.).

b. Waveoff — A waveoff is mandatory when ordered by the control tower, runway duty officer, or wheels watch unless the pilot is experiencing an emergency. The waveoff may be given by radio, light signals, red flares, or hand/flag signals.

c. Wheels Down Report — A wheels down report shall be given as the aircraft turns onto the base leg or after lowering the landing gear on straight-in approach. The controller shall remind the pilot to check wheels down at an appropriate position in the pattern unless the pilot has previously reported wheels down.

d. Lost Communication — If unable to establish radio communication, comply with the procedures contained in the Flight Information Handbook. Flashing of the landing/taxi lights is recommended in addition to the "wing rock" procedure.

6.3.1 Reduced Same Runway Separation. Strict adherence to the separation criteria for arriving and departing aircraft set forth in FAA Handbook 7110.65 may, in some circumstances, cause operational/training delays and airport congestion. Factors such as mission of the facility, airfield design, and aircraft models being supported may indicate that reduced separation standards are feasible and can be applied while maintaining adequate margins of safety. Subject to prior approval by the immediate senior in the chain of command, naval aviation shore facility commanders are authorized to establish and apply reduced separation criteria for Navy and Marine Corps aircraft at the airfields under their command with the following stipulations:

a. Such action is necessary to meet operational/training requirements.

b. In the case of formation instrument approaches, ceiling and visibility minimums stated in paragraph 5.1.9.6 apply.

c. Reduced separation criteria are applied only between aircraft of similar performance characteristics or when the preceding aircraft has higher performance than the following.

d. Prior to application of reduced separation criteria, appropriate directives are issued delineating the specific standards to be applied (i.e., distance between aircraft using alternate sides of the runway, distance between aircraft using centerline, aircraft model/classes to which reduced standards apply, etc.).

e. Appropriate measures have been instituted to ensure that affected ATC personnel and aircraft operators are aware of the criteria being applied.

6.3.1.1 Aircraft of Other Military Services. The conditions of paragraph 6.3.1 may also apply to aircraft of other military services when such conditions are agreed to in writing by the cognizant operational commander of the other service and the Navy or Marine Corps shore facility commander.

6.3.2 Procedure for Checking Wheels Down and Locked. When a pilot has any doubt as to the gear being down and locked, the pilot shall promptly notify the controlling agency. Further, the pilot should request an airborne visual check, preferably by a similar model aircraft if one is available and such a procedure is considered practicable and safe. If not possible, the pilot should request a ground visual check by the most qualified personnel available (e.g., LSO, RDO, etc.). If doubt exists as to gear being down and locked, the pilot shall notify the control tower, which will in turn direct the pilot to perform a low pass in front of the tower for the purpose of a visual check. Pilots should be aware, however, that air traffic control personnel may only comment on the appearance of the landing gear (e.g., "wheels appear down"). Should doubt exist after a visual check, crash and rescue equipment shall be available for precautionary landing. After a landing rollout, the aircraft shall not turn off the runway until ground personnel have made a visual check of the gear and gear pins have been installed. If a known "not locked" or "up" condition exists, normal crash alert procedures shall be instituted.

6.3.3 Runway Braking Action Advisory/Condition Readings. ATC facilities shall issue runway braking action advisories when braking action reports received from pilots or authorized airport operations personnel indicate braking action is "poor" or "nil." The Flight Information Handbook contains the necessary information for converting the numerical runway condition readings (included in the remarks portion of the weather sequence) to descriptive terms used in braking action advisories.

6.4 LETTERS OF AGREEMENT

The NATOPS Air Traffic Control Facilities Manual contains procedures for executing letters of agreement between FAA/USN air traffic control facilities concerning the control of air traffic. This guidance may also be used by wings/squadrons in effecting local letters of agreement with FAA facilities. The Navy Representative to the FAA Regional Headquarters (NAVREP) should be consulted in these cases. Information copies of local letters of agreement not specifically addressed in the NATOPS Air Traffic Control Facilities Manual shall be forwarded to CNO (N885F) and the appropriate type commander.

6.5 VITAL MILITARY OPERATIONS

6.5.1 Priority. OPNAVINST 3722.30 (Security Control of Air Traffic and Air Navigation Aids (SCATANA) Plan) states there are certain military operations vital to national defense. These operations include active air defense interceptor missions, active undersea warfare missions, and active airborne early warning and control missions. These operations are to be given priority over all other military and civil aircraft by procedural handling by ATC for the particular operation as specified in coordinated agreements or authorizations. Joint Letters of Agreement (LOAs) between naval commands and FAA become the coordinating agreements specified in SCATANA.

6.5.2 Letters of Agreement

a. Each naval aviation shore activity from which active alert missions are conducted shall develop and implement a joint LOA with the appropriate FAA or host nation agency to prevent air traffic control delays for active missions. Wings/squadrons that routinely stand alert status at non-U.S. Navy airfields should execute an appropriate LOA at those airfields. Items that must be addressed in LOAs include but are not limited to:

(1) Procedures to notify ATC at least 5 minutes prior to the flight to allow for clearing of traffic from the departure corridor.

(2) Provision for ATC release of the active mission aircraft to an appropriate tactical control agency upor request with due regard for safety of flight.

(3) Provision of Military Assumes Responsibility for Separation of Aircraft (MARSA) within the same mission. Refer to OPNAVINST 3722.33 (FAA Order 7610.4, Special Military Operations).

b. Prior to signing and implementing any agreement, the proposed LOA shall be forwarded to the cognizant force commander for review and approval. NAVREPs should be consulted for assistance and advice in developing or revising joint LOAs and shall be provided copies of such agreements.

CHAPTER 7

Safety

7.1 FLIGHT PRECAUTION

7.1.1 General Precautions. Naval aircraft shall not be operated in a nonstandard configuration or outside the limits of NATOPS without airworthiness approval in the form of a flight clearance document (per NAVAIRINST 13034.1) from NAVAIRSYSCOM.

7.1.1.1 Conduct of Flight. Pilots shall conduct their flights in such a manner as to avoid all unacceptable risks as determined by following the ORM process. Each pilot must exercise prudent judgment and take proper action (including modifying NATOPS procedures) when dictated by emergencies that endanger life or property. The decision to abandon aircraft should be tempered by the pilot's responsibility for the safety of lives that may be endangered by subsequent flight of a pilotless but controllable aircraft. It is the responsibility of the pilot/crew to aviate, navigate, and communicate, in that priority, throughout all aspects of both routine and unusual circumstances.

7.1.1.2 Liferafts. On overwater flights the number of persons in an aircraft shall not exceed capacity of the liferafts carried except as dictated by operational necessity.

7.1.1.3 Feathering or Securing Engines. During simulated emergency operations and functional checkflights of multiengine aircraft, no propeller shall be fully feathered or engine secured at an altitude below 4,000 feet above the terrain except as follows:

a. Aircraft undergoing test and trials as required by COMNAVAIRSYSCOM

b. Aircraft whose design characteristics include normal operations with propellers feathered or engines secured below 4,000 feet.

Four-engine aircraft may operate with one propeller feathered or with one engine secured at altitudes of 1,500 feet above the terrain or higher when required for checkflights or training purposes subject to restrictions contained in the applicable NATOPS manual.

7.1.1.4 Conduct of Passengers. Passengers embarked in transport aircraft shall remain in its passenger compartments and shall not enter the pilot or crew compartments except on specific invitation of the aircraft pilot in command.

7.1.1.5 General Flight Personnel/Passenger Restrictions. Except for emergency or operational necessity, the number of persons aboard naval aircraft engaged in flight operations such as pilot checkout, night familiarization, carrier qualifications, instrument flying in single-piloted aircraft, or functional checkflight and evaluation shall be limited to those required to properly operate the aircraft and accomplish the assigned mission. When applicable, special precautions shall be observed in the weight and balance of the aircraft.

Note

Simulated emergencies that may affect aircraft controllability shall not be conducted anytime passengers are aboard the aircraft.

7.1.1.6 Operation of Battery Powered Devices. Crew/passengers shall not operate electronic equipment/battery powered devices such as radios, tape players, cellular phones, razors, calculators, etc., without approval of the pilot in command while the aircraft is in flight. Operation of cellular telephones shall be minimized in naval aircraft while airborne.

7.1.1.7 Loading/Offloading. Whenever a fixed-wing aircraft is engaged in loading or offloading of passengers, the engine(s) on the side of the aircraft from which loading or offloading is taking place shall normally be shut down. When the engine(s) cannot be secured during loading/offloading evolutions without adversely affecting the successful completion of the mission, care shall be taken to ensure that passengers are properly briefed and appropriate safety precautions are observed.

7.1.1.8 Adequate Cockpit Visual Lookout. The pilot in command of a naval aircraft with side-by-side cockpit seating arrangement shall be responsible for both seats being occupied at all times. On occasions when either pilots or copilots are absent from their seats, they should be relieved by another pilot or qualified crewmember who will carry out the responsibilities expected of a lookout. Functional checkflights of single-piloted aircraft may be exempt from this provision when deemed advisable by the commanding officer.

7.1.2 Starting, Turning, and Taxiing

7.1.2.1 Authorized Personnel. Engines shall not be started without a pilot or designated mechanic in the pilot seat. See paragraph 7.1.2.4 concerning helicopters.

7.1.2.2 General Prestart Precautions

a. Before starting an engine, the wheels of the aircraft shall be chocked and the parking brake set unless a deviation from this requirement is specifically authorized by the applicable model NATOPS manual.

b. Where applicable, intake screens shall be installed on jet aircraft.

c. Prior to starting jet engines, intakes and surrounding ground/deck shall be inspected to eliminate the possibility of FOD.

d. When an engine is started by nonpilot personnel for testing and warmup purposes on aircraft other than transport and patrol class equipped with parking brakes, the plane shall be tied down.

e. Whenever an engine is started, personnel with adequate fire extinguishing equipment, if available, shall be stationed in the immediate vicinity of the engine but safely clear of intakes or propellers.

7.1.2.3 Starting Procedures. In starting an aircraft, all challenges and signals between the person operating the starting device and the person at the engine controls shall be clearly understood and so indicated by repetition before action is taken by either person. Where the engines are started entirely from the cockpit, the person at the engine controls shall exchange signals with a person observing the engine from outside the aircraft. In all cases, the propeller or jet intake duct and engine outlet, as applicable, shall be declared "all clear" prior to starting. Similarly, the rotor(s) of a helicopter shall not be engaged unless the individual in the cockpit is assured by positive signal that the area swept by the rotor(s) is "all clear."

7.1.2.4 Helicopters/Tilt-Rotors. When the engine of a helicopter/tilt-rotor is started, the controls should be manned by a qualified helicopter/tilt-rotor pilot. Commanding officers may authorize certain specially qualified personnel, other than pilots, to ground test helicopter/tilt-rotor engines and avionics when a pilot is not available; however, rotors shall not be engaged except by a qualified pilot. Commanding officers of naval aviation depots and naval facilities may authorize qualified civilian employees to start engines and engage rotors for ground system checks. Aircraft security requirements (e.g., tiedowns, chocks, parking brakes, etc.) shall be in accordance with applicable NATOPS.

7.1.2.5 Turnup. Before starting an engine for a high power turnup, aircraft other than transport and patrol class aircraft shall be well tied down and placed in such a manner that the propeller or jet blast will not cause damage to other aircraft, equipment, or property. During any ground runup, an outside observer shall be stationed in such a location as to be in view of the person at the controls at all times.

7.1.2.6 Taxiing

a. When taxiing in the close vicinity of obstructions or other aircraft, a qualified taxi director shall attend the taxiing aircraft as well as other ground personnel necessary to ensure safe taxiing.

Note

The pilot in command is responsible for safe taxi clearance from obstacles and other aircraft. When uncertain of safe taxi clearances, stop and utilize appropriate ground personnel prior to continuing to taxi.

b. Instructions and use of plane handling signals appear in NWP 3-04.1M, the Aircraft Signals NATOPS Manual, and posters and pamphlets issued by CNO. All naval activities are directed to comply with these instructions.

7.1.3 Takeoff

7.1.3.1 Flight Personnel and Passenger Briefing. The pilot in command of a naval aircraft shall ensure that prior to takeoff flight personnel and passengers are adequately instructed on personal safety and survival equipment and procedures required for the particular aircraft in which they embark. Pilots of helicopters that embark passengers are released from briefing responsibilities while engaged in:

a. SAR missions

b. Transporting large troop contingents, reconnaissance parties, patrols, and outposts during field problems or when no opportunity is provided for the aircraft to be shutdown after embarkation

c. Shipboard operations when landings are precluded.

Under such circumstances, the briefing shall be the responsibility of the cognizant local commander(s).

7.1.3.2 Loose Articles. Prior to aircraft takeoff, an inspection shall be made to ensure that no loose articles, such as rags, waste, tools, etc., are present that might foul the controls. Articles shall be properly stowed to prevent their coming adrift and being lost overboard or damaging the aircraft during maneuvers. Care shall be taken to ensure proper load-balance distribution of all weights.

7.1.4 Takeoff and Landing Checklists. NATOPS checklists shall be provided in each aircraft for mandatory use by pilots to assist them in preparing the aircraft for takeoff and landing. They shall be followed carefully and in their given order to ensure that all steps are performed.

Note

In compliance with aircraft military design specifications, most aircraft are provided with abbreviated takeoff and landing checklists placarded (or etched) on instrument panels. The checklists are an additional reminder to flight personnel to complete required NATOPS manual checklists and serve as a double check on the proper positioning and status of major aircraft systems.

7.1.5 Power Failure on Multiengine Aircraft

7.1.5.1 Twin-Engine Aircraft. In the event of power failure or whenever an engine is stopped as a precaution on an aircraft that has two engines, the pilot in command shall land at the nearest suitable airport, in terms of time, provided weather conditions, terrain, and facilities available indicate that a safe landing can be accomplished.

7.1.5.2 Aircraft With Three or More Engines. In the event of a single power failure or whenever not more than one engine is stopped as a precaution on an aircraft that has three or more engines, the pilot in command may proceed to a selected destination if, after considering the following, the pilot in command decides that proceeding to that destination is as safe as landing at the nearest suitable airport:

a. The nature of the malfunction and the possible mechanical difficulties that may occur if flight is continued.

b. The altitude, weight, and usable fuel at the time of engine stoppage.

c. The terrain and weather conditions en route and at suitable landing points.

d. Possible air traffic congestion at suitable landing points.

e. Pilot familiarity with the airport to be used.

7.1.5.3 Reports. Pilots in command shall report in-flight power failures and/or precautionary engine stoppages that affect safety of flight to the appropriate ground station as soon as practicable and shall keep appropriate operational control centers and/or traffic control facilities advised of their intentions and flight progress.

7.1.6 Distress and Emergency

7.1.6.1 Distress Procedures. Distress frequencies, procedures, signals, and call signs may vary among theaters of operations and are contained in various directives such as Joint Pub 3-50, DOD FLIPS, and ICAO publications. A copy of the applicable procedures and signals shall be carried in the cockpit of all naval aircraft and may be used in time of peace regardless of the degree of radio silence that may be imposed during tactical exercises. They will be used in time of war when prescribed by the officer in tactical command and may be amplified as necessary to cover local conditions or special operations.

7.1.6.2 Emergency Procedures. Forced landing, lost aircraft, and search and rescue procedures applicable to aircraft are contained in various directives such as NWPs; Joint Army, Navy, Air Force Publications (JANAPs); and ICAO publications. Commanding officers shall ensure that each pilot under their command is thoroughly cognizant of applicable directives.

7.1.7 Ditching and Bailout

7.1.7.1 Ditching Precautions. When an aircraft must be crash landed on either land or water, the sudden shifting of cargo, equipment, and other heavy items may

cause injury or loss of life. All units shall arrange and secure equipment in their aircraft to guard against such dangers. Emergency gear such as liferafts should be properly stowed for quick availability. Responsibility for proper security of cargo and equipment lies with the pilot in command of each aircraft.

7.1.7.2 Procedures. Ditching and bailout bills shall be prominently displayed in all multipiloted aircraft having embarked flight personnel and/or passengers. Frequent drills shall be held to familiarize flight personnel with these instructions. Ditching and bailout signals shall be accompanied by simultaneous parallel announcements on the ICS or public address system whenever practicable.

Note

Bailout bills shall not be required in helicopters; however, strict compliance with the provisions of paragraph 7.1.3 is mandatory.

7.1.8 Command and Control Communication. Change in the control of aircraft shall be effected in a positive manner. As a minimum, a simple voice procedure (ICS or oral) shall be used to effect transfer of control responsibility. Pilots exercising control are responsible until they acknowledge verbally the relieving pilot's acceptance of control of the aircraft. Where noise level, cockpit configuration, or other conditions prevent a positive verbal exchange, the following procedure shall be used:

a. The pilot desiring to be relieved or pilot desiring to take control shall shake control stick or column.

b. Pilots taking control shall shake control stick or column.

c. Pilot being relieved shall hold both hands overhead and observe the relieving pilot.

d. Pilots who have taken control shall signify this fact definitely by placing their hand on their head when the other pilot is looking at them. The pilot originally in control shall not be considered relieved until the foregoing has been executed, and responsibility for control of the aircraft rests upon the pilot until that has occurred.

e. In aircraft where visual contact between the two control positions is impossible or unsatisfactory, shift of control shall be attempted only when an operative interphone system is provided.

f. In high-performance multicrew jet aircraft, the pilot ICS shall be selected to the "Hot Mic" position in aircraft so equipped for all takeoffs and landings, and when taxiing on an aircraft carrier deck. Below 2,5[illegible] feet AGL, "Hot Mic" shall always be selected unle the use of "Hot Mic" would significantly detract from the safety or mission effectiveness of the flight. Further use of "Hot Mic" should be prescribed in the individual flight manuals as appropriate to the installed system, mission requirements, and emergency capabilities.

7.1.9 Tobacco Products in Aircraft

a. The use of tobacco products in naval aircraft is prohibited.

b. Lighter Prohibition — Lighters with plastic liquid reservoirs and/or containers for refilling any lighter are prohibited in naval aircraft. Lighters with butane, propane, or methyl alcohol as a fuel are also prohibited.

7.2 PREVENTION OF CARBON MONOXIDE AND OTHER TOXIC BY-PRODUCT CONTAMINATION

a. General — Carbon monoxide, the most common toxic gas of combustion, as well as other toxic gases such as aldehydes present a serious safety of flight hazard. Prior to service acceptance, aircraft are teste to ensure an acceptable carbon monoxide level durin operation. Such factors as wear and deterioration of airframe seals and opening of seams may increase susceptibility to carbon monoxide contamination.

b. Test procedures and technical directives — Test procedures are outlined in MIL-STD-800 that also references other pertinent technical directives on this subject.

c. Flight personnel procedures — Adherence to the following procedures will reduce the risk of gaseous intoxication.

(1) Pay particular attention to the detection of exhaust fumes and to physical symptoms indicating poisoning. If toxic gases are suspected prior to takeoff, the flight shall be discontinued until the source of contamination is determined and eliminated.

(2) When installed, select 100-percent oxygen regardless of altitude whenever carbon monoxide or other noxious or irritating gas is present or suspected. Use 100-percent oxygen until danger is past c flight is completed. If necessary, activate emer gency oxygen supplies.

(3) Take precautions during ground operations to avoid contamination of the aircraft either by its own exhaust or by exhaust gases of adjacent aircraft.

(4) In helicopters, avoid hovering with engine exhaust to windward.

(5) During preflight inspection, ensure that all fuselage openings, torpedo doors, and other access doors are properly secured.

7.2.1 Safety Belts and Shoulder Harnesses. Each person's safety belt and shoulder harness shall be worn and tightened prior to takeoff and shall be worn until completion of the flight except when necessary activities require temporary removal. Inertia reels, where provided, shall be manually locked for all takeoffs and landings and at all other times when high g forces may be encountered except where the procedure is detrimental to safe operation. The number of persons over 2 years of age embarked in a naval aircraft for flight shall be restricted to the number for which there are adequate seats and safety belts. During takeoffs, landings, and at other times as specified by the pilot in command, each person over 2 years of age on board transport aircraft shall occupy a seat or berth and be secured with the safety belt provided for that purpose. TYCOMs may authorize waivers of cabin seating requirement for helicopters when operational environment or aircraft configuration/load requirements dictate for the accomplishment of essential training and operations. Waiver should be granted with following guidelines:

a. Only applies to special operations training and missions.

b. Not to be used for routine operational training or personnel transfers. Applies only when unique special operation requirements exist for a specific mission or exercise.

c. When seats are removed, passengers will be restrained by an appropriate alternate means.

d. If mission profile requires waiver of seats/seatbelts/restraints for one part of the mission, then passengers shall use seats/seatbelts/restraints for all other phases of the mission.

WARNING

Walkaround belts do not provide impact protection; therefore, use of those belts shall be restricted to only those occurrences when mission accomplishment requires persons to be out of their seat. Such belts shall not be worn when strapped into a seat.

Note

Flight personnel leaving their seats to open a hatch or work in the vicinity of an open hatch shall wear an approved crewman aircraft belt (walkaround) during time spent out of the seat.

7.2.2 Reclining Seats. Personnel embarked in aircraft equipped with seats that have a reclining back shall be instructed to lock the seat in the erect position for all takeoffs, landings, and emergencies.

WARNING

Reclining seats that will not lock in the erect position shall not be used for passenger transport.

7.2.3 Unusual Performance of Aircraft. Any abnormal, erratic, or other kind of unusual performance of an aircraft or its powerplant, including material failures, shall be reported in accordance with OPNAVINST 3750.6 and OPNAVINST 4790.2.

CHAPTER 8

Aeromedical and Survival

8.1 GENERAL

To improve the survivability of flight personnel, CNO (N88) has implemented the aircrew survivability enhancement program (ASEP). Subelements of this program are aviation life support systems (ALSS), safety, human performance, and training. Guidelines and requirements contained here are considered minimum. Recommendations for changes or improvement in equipment, procedures, or training shall be addressed via the chain of command to CNO (N88B) for evaluation and, if appropriate, implementation.

8.2 AVIATION LIFE SUPPORT SYSTEMS

The safety and survival equipment specified in paragraphs 8.2.1, 8.2.2, 8.2.3, and 8.2.4 of this manual are minimum requirements. Deviations shall be specified by the NATOPS flight manual for individual model aircraft. The latest available equipment, as authorized by aviation crew systems manuals, NAVAIR 13-1-6.1 through NAVAIR 13-1-6.10, shall be used by aircrew personnel and passengers for flight in all naval aircraft.

8.2.1 Aircrew Personal Protective Equipment Requirements

8.2.1.1 Aircrew

Note

Items marked * may be omitted by flight personnel flying in fixed-wing cargo/transport class aircraft if such flight does not involve carrier operations.

*a. Protective helmet — The helmet and visor housing shall be 100 percent covered with white reflective tape except as modified by approved aircrew system changes. Up to 30 square inches of light-colored reflective tape may be applied so long as the white tape remains visible from all directions. The use of reflective tape may degrade NVD performance. Temporary, nonreflective cloth covers may be worn over the reflective tape.

Note

Up to 65 square inches of nonwhite reflective tape is authorized on the HGU-64/P visor housing and a locally fabricated international orange cover is authorized for use on the HGU-64/P in Antarctic environment. Visor housings will be taped in accordance with previous paragraph and all covers removed while in CONUS.

*b. Aircrew safety/flyer boots.

*c. Fire-resistant (aramid) flight gloves.

*d. Fire-resistant flight suit (aramid) — Aramid or cotton-type undergarments shall be worn. Suitable fire-resistant unit issue clothing (aramid) may be substituted for the flight suit for flight personnel in fixed-wing cargo/transport class aircraft.

e. Identification tags — Two tags on a chain worn around the neck.

*f. Survival knife and sheath — Do not wear exposed or attached to the life preserver.

*g. Personal survival kit — Appropriate to the area of operations.

*h. Signal device — Required for all night flights and flights over water or sparsely populated areas.

i. Survival radios and beacons

(1) Survival radios

(a) An approved voice-capable survival radio shall be carried by each aircrewman on all flights, unless otherwise directed by aircraft NATOPS manuals.

(b) A voice-capable radio shall be packed with all multiplace rafts.

(2) Emergency beacons

(a) An approved automatically actuated line-of-sight emergency beacon shall be installed in all ejection seats.

(b) An HF, beyond-the-line-of-sight, emergency beacon shall be packed with all multiplace rafts carried on board aircraft when performing extended overwater flights outside of normal oceanic air traffic routes.

j. Flashlight — Required for all night flights.

k. Antiexposure suits — The latest available type continuous-wear or quick-donning antiexposure suits, as appropriate, shall be provided for flight personnel of naval aircraft when in the event of a mishap there would be a significant risk of water entry and when any of the following conditions prevail:

(1) The water temperature is 50 °F or below.

(2) The outside air temperature (OAT) is 32 °F (wind chill factor corrected or below; see Figu 8-1).

(3) If the water temperature is between 50 °F and 60 °F, the commanding officer of the unit concerned must determine whether antiexposure suits are necessary (Figure 8-2) based on SAR factors as follows:

(a) Assess maximum probable rescue time. This is a function of mission distance, SAR equipment, and SAR location.

(b) Determine the lowest water temperature in the mission area during the time period of flight.

(4) When water temperature is below 60 °F and antiexposure suits are not required, flight equipment ensemble shall include aramid undergarments.

WIND SPEED MPH	WHAT THE THERMOMETER READS (degrees F.)											
	50	40	30	20	10	0	−10	−20	−30	−40	−50	−60
	WHAT IT EQUALS IN ITS EFFECT ON EXPOSED FLESH											
CALM	50	40	30	20	10	0	−10	−20	−30	−40	−50	−60
5	48	37	27	16	6	− 5	−15	−26	−36	−47	−57	−68
10	40	28	16	4	−9	−21	−33	−46	−58	−70	−83	−95
15	36	22	9	−5	−18	−36	−45	−58	−72	−85	−99	−112
20	32	18	8	−10	−25	−39	−53	−67	−82	−96	−110	−121
25	30	16	0	−15	−29	−44	−59	−74	−88	−104	−118	−133
30	28	13	−2	−18	−33	−48	−63	−79	−94	−109	−125	−140
35	27	11	−4	−20	−35	−49	−67	−82	−98	−113	−129	−145
40	26	10	−6	−21	−37	−53	−69	−85	−100	−116	−137	−148
	Little danger if properly clothed				Danger of freezing exposed flesh				Great danger of freezing exposed flesh			

Figure 8-1. Wind Chill Index

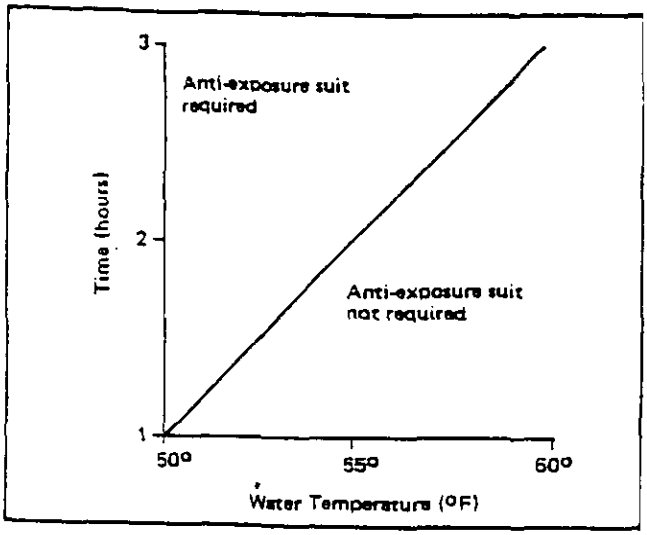


Figure 8-2. Antiexposure Suit Requirement

Wearing double layers of these undergarments can significantly improve antiexposure performance in a dry environment.

WARNING

Aramid undergarments alone provide a very minimal increase in thermal protection in a water survival situation. Immersion in water with a temperature of between 50° and 60° for as little as 2 hours can result in unconsciousness because of hypothermia. Wearing of the complete antiexposure ensemble as authorized by NAVAIR 13-1-6.7 is the only configuration that ensures adequate thermal protection with water temperatures below 60 °F.

(5) Final determination with regard to actual wearing of antiexposure suits shall be made by the CO or officer in charge (OIC) of the unit concerned based on all pertinent factors (i.e., class aircraft, type and duration of assigned mission, ambient cockpit temperatures, suit ventilation features, combat versus noncombat environment, availability of SAR facilities).

(6) Only approved combinations of antiexposure suit inner and outer liners authorized by NAVAIR 13-1-6.7, Aircrew Personnel Protective Equipment, shall be worn.

(7) When antiexposure suits are not actually worn by occupants of aircraft in which the use of quick-donning suits is practical (i.e., large helicopters and patrol class aircraft) such suits shall be carried for each flight personnel as part of the aircraft survival equipment on flights conducted under the temperature conditions stated above. Exceptions to the above requirements are as follows:

(a) Fleet tactical support squadrons and other commands operating transport class aircraft in routine transport operations. (Functional checkflights, flights for airlift of hazardous cargo, and flights in combat zones are examples of other than routine operations.)

(b) When worn with approved inner garments, the full-pressure suit is authorized for use in place of the continuous-wear antiexposure suit.

Note

The wearing of full-body antiexposure rubber wetsuits can result in rapid onset of fatigue as a result of dehydration. Since fatigue is more prevalent with the wearing of wetsuits, the rest, sleep, and flight time requirements of paragraph 8.3.2 may not be sufficient.

l. Antiblackout suits shall be worn and connected on all flights in aircraft equipped for their use.

m. Inflatable life preservers shall be worn during all flights originating from or terminating on ships or landing platforms. Life preservers shall be readily available when operating from aerodromes in the vicinity of coastal waters or when operating from inland aerodromes where takeoff, route of flight, or approach path is over water. Occupants of ejection seat aircraft shall wear the appropriate life preserver at all times. Life preservers shall be worn when mission requirements dictate operation over water below 1,000 feet exclusive of normal departures or approaches.

WARNING

The LPU life preserver automatic inflation device, FLU-8/P, is designed for use in ejection seat aircraft only. It shall not be worn in aircraft where ditching is a recommended procedure, in helicopters, or on COD flights.

n. Laser eye protection (LEP) — LEP shall be worn as prescribed in SPAWARINST 5100.12 and when laser scenarios involve multiple aircraft.

o. Helicopter emergency egress device (HEED) — HEED shall be worn by all helicopter, E-2, and C-2 aircrew during overwater flights. Aircrew must complete initial HEED training prior to being issued personal HEED equipment. The flight-approving authority may provide HEED equipment to any nonaircrewman who has successfully completed HEED and other prerequisite training.

8.2.1.2 Rescue Aircrewmen Equipment. The minimum personnel equipment to be carried by the rescue swimmer shall be in accordance with applicable aircraft type NATOPS manual and NWP 19-1.

8.2.1.3 Passengers. Passengers shall comply with the provisions of paragraph 8.2.1.1n.

a. Passengers in COD aircraft during shipboard launch and recovery and passengers in helicopters shall wear an approved protective helmet with reflective tape. The combat/parachutist helmet may be worn in lieu of the protective helmet with reflective tape, provided hearing protection is worn by all passengers. Waivers of this requirement may be granted by CMC/CNO only.

b. During shipboard logistic, nontactical operations, passengers in COD/VOD aircraft (excluding FMF helicopters) shall wear appropriate antiexposure protection whenever antiexposure suits are required for aircrew.

c. For all other aircraft, passengers shall be equipped with the same items of safety and survival gear as the flight personnel.

8.2.2 Liferafts. Liferafts of sufficient capacity to accommodate passengers and crew shall be provided in all aircraft when there would be a significant risk of water entry in the event of a mishap. Officers in tactical command may waive this provision during troop movements between sea and shore when they deem it appropriate and adequate SAR facilities are available.

8.2.3 Parachutes

8.2.3.1 Requirements. Parachutes shall be provided for all occupants of naval aircraft except as follows:

a. Multiengine transport and utility aircraft except for functional checkflights or as the unit commander directs.

b. Fleet air reconnaissance aircraft (EC-130 and E-6A, only).

c. Helicopters shall carry parachutes on flights involved in experimental or research operations.

8.2.3.2 Responsibility of the Pilot in Command. The pilot in command of a naval aircraft in which parachutes are required shall assure the following:

a. A parachute is available to all flight personnel and passengers in a location convenient to the intended user.

b. All flight personnel and passengers are familiar with the location, use of the type parachute provided, and bailout procedures for the aircraft in which embarked.

8.2.3.3 Quick Attachable Chest-Type Parachutes (QAC). At the discretion of the pilot in command, flight personnel and passengers of aircraft in which QAC-type parachutes are used may remove and stow their parachute harnesses in a readily accessible predesignated standard stowage space. Individuals performing pilot/copilot duties in such aircraft may remove their parachute harness only when both the following conditions prevail:

a. The flight is conducted during daylight hours.

b. The aircraft remains at or below 2,000 feet over open water or level terrain.

8.2.4 Oxygen/Cabin Pressurization. Except as stated in paragraph 8.2.4.1, all occupants aboard naval aircraft shall use supplemental oxygen on flights in which the cabin altitude exceeds 10,000 feet.

8.2.4.1 Unpressurized Aircraft. In unpressurized aircraft, the pilot at the controls shall use supplemental oxygen continuously when cabin altitude exceeds 10,000 feet. When oxygen is not available to other occupants, flight between 10,000 and 13,000 feet shall not exceed 3 hours duration, and flight above 13,000 feet is prohibited.

8.2.4.2 Pressurized Aircraft. Figure 8-3 governs the use of oxygen equipment in pressurized aircraft other than tactical jet aircraft flown above 10,000 feet

AMBIENT ALTITUDE	SINGLE-PILOTED AIRCRAFT	MULTIPILOTED AIRCRAFT		CREW ON DUTY	OTHER OCCUPANTS
		PILOT	COPILOT		
FL 250 and below	R	R	R	R	N/A
Above FL 250 through FL 350	I	I	R	R	R
Above FL 350 through FL 400	O	I or O	I or R	R	R
Above FL 400 through FL 450	O	O	I	R	R
Above FL 450 through FL 500	O	O	I	I	I

LEGEND

R — Oxygen shall be readily available.

I — Oxygen shall be immediately available. Helmets shall be worn with an oxygen mask attached to one side or an approved quick-donning or sweep-on mask properly adjusted and positioned for immediate use. Set oxygen regulator to 100 percent and ON.

O — Oxygen shall be used.

Note

In multipiloted pressurized aircraft if above FL 250, the pilot at the controls must be using 100 percent oxygen if the other seat is occupied by other than a qualified pilot, except for aircraft equipped with quick-donning masks at both pilot stations where the above rule shall apply above FL 350.

Figure 8-3. Oxygen Requirements for Pressurized Aircraft Other Than Jet Aircraft

pressure altitude. Oxygen shall be used when cabin altitude is maintained at 10,000 feet or greater except as modified by paragraph 8.2.4.3.

8.2.4.3 Tactical Jet and Tactical Jet Training Aircraft. Oxygen shall be used by all occupants from takeoff to landing. Emergency bailout bottles, when provided, shall be connected prior to takeoff.

8.2.4.4 Quantity of Oxygen. The quantity of oxygen aboard an aircraft before takeoff must be sufficient to accomplish the planned mission. In aircraft carrying passengers, there shall be an adequate quantity of oxygen to protect all occupants through normal descent to 10,000 feet.

8.2.4.5 Loss of Pressurization. If loss of pressurization occurs, an immediate descent shall be made to a flight level where cabin altitude can be maintained at or below FL 250 and oxygen shall be utilized by all occupants.

8.2.4.6 Decompression Sickness. When an occupant of any aircraft is observed or suspected to be suffering from the effects of decompression sickness, 100 percent oxygen will be started and the pilot shall immediately descend and land at the nearest civilian or military installation suitable for safe landing and obtain qualified medical assistance. See paragraph 8.3.2.12b.

8.3 HUMAN PERFORMANCE AND AEROMEDICAL QUALIFICATIONS FOR FLIGHT AND FLIGHT SUPPORT PERSONNEL

8.3.1 General. Operational readiness and aviation safety are enhanced by assuring that flight and other support personnel achieve and maintain an optimal state of physical and emotional health. Conditions which reduce that state can decrease performance and increase mishap potential. This section outlines basic guidelines that individuals and all levels of supervision and command can use to attain and monitor personnel performance.

Note

- The senior aviation commander responsible for conduct of tactical air operations may exceed these guidelines should operational necessity dictate. Exceeding the guidelines increases the probability of crew fatigue, causing impaired judgment and reduced performance.

- Landing signal officers (LSOs) shall meet the physiological standards required for aircrew in a flight status to perform the duties of a controlling or backup LSO. Maladies or injuries that do not impair mental acuity (such as minor sprains, etc.), but that preclude normal flight status may be waived by the flight surgeon on a case-by-case basis.

- Commanding officers and flight surgeons shall comply with applicable directives pertaining to mental health evaluation of servicemembers. (See DOD Directive 6490.1, Mental Health Evaluations of Members of the Armed Forces, of 14 September 1993, that is implemented by SECNAVINST 6320.24). Individuals who fall under "Military Whistleblower Protection" guidelines (DOD Directive 7050.6 of 12 August 1995, that is enclosed in SECNAVINST 5370.7A) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local flight surgeons and legal officers.

- UAV flightcrews should comply with all sections of 8.3 and any other applicable sections.

8.3.2 Factors Affecting Personnel Readiness and Qualifications. Numerous complex factors affect the readiness of flight and support personnel. Those factors must be understood by all concerned and appropriate countermeasures established to assure they do not reduce personnel readiness. Flight personnel should report any physical indisposition to superiors and assume flight duty only when fit to do so. Since an individual may frequently be the poorest judge of personal fitness, commanding officers shall ensure that flight personnel are adequately observed and appropriate temporary grounding action is taken when necessary. The following guidelines and requirements should be considered for all aspects of naval aviation.

8.3.2.1 Rest and Sleep. Eight hours for sleep time should be made available every 24-hour period. Ground time between flight operations should be sufficient allow flight personnel to eat and obtain at least 8 hou of uninterrupted rest. Flight personnel should not be scheduled for continuous alert and/or flight duty (required awake) in excess of 18 hours. If it becomes necessary to exceed the 18-hour rule, 15 hours of continuous off-duty time shall be provided. Flight and ground support personnel schedules shall be made with due considerations for watch standing, collateral duties, training, and off-duty activities.

8.3.2.1.1 Circadian Rhythm. Circadian rhythms are cyclic fluctuations of numerous body functions that are set like a "biological clock" to a local time or sleep/awake periods. Changing local sleep/awake periods or rapidly crossing more than three time zones disrupts circadian rhythms and can cause a marked decrease in performance. This condition, called "jet lag," is compounded by illness, fatigue, or drugs, and is resolved only by accommodation to the new local time or sleep/awake period. The accommodation period can be estimated by allowing 1 day for every hour in excess of 3. Accommodation begins when a new daily routine is established. During that period, aircrew are not grounded but can be expected to perform at a less than optimal level. Closer observation by the flight surgeon during the period may be desirable.

8.3.2.2 Flight Time. Precise delineation of flight time limitations is impractical in view of the varied conditions encountered in flight operations. Required preflight/postflight crew duty time must be given due consideration. The following guidelines are provided to assist commanding officers:

a. Daily flight time should not normally exceed three flights or 6-1/2 total hours flight time for flight personnel of single-piloted aircraft. Individual flight time for flight personnel of other aircraft should not normally exceed 12 hours. The limitations assume an average requirement of 4 hours ground time for briefing and debriefing.

b. Weekly maximum flight time for flight personnel of single-piloted aircraft should not normally exceed 30 hours. Total individual flight time for flight personnel of other aircraft should not exceed 50 hours. When practicable, flight personnel should not be assigned flight duties on more than 6 consecutive days.

c. Accumulated individual flight time should not exceed the number of hours indicated in Figure 8-4.

PERIOD (DAYS)	SINGLE-PILOTED AIRCRAFT	MULTI-PILOTED (PRESSURIZED) EJECTION SEAT AIRCRAFT	MULTI-PILOTED NONPRESSURIZED AIRCRAFT	MULTI-PILOTED PRESSURIZED AIRCRAFT
1	6.5	12	12	12
7	30	50	50	50
30	65	80	100	120
90	165	200	265	320
365	595	720	960	1120

Figure 8-4. Maximum Recommended Individual Flight Time

d. When the tempo of operations requires individual flight time in excess of the guidelines in Figure 8-4 or paragraphs 8.3.2.2a and 8.3.2.2b, flight personnel shall be closely monitored and specifically cleared by the commanding officer on the advice of the flight surgeon. Aviation-capable ships that do not have access to flight surgeons for waiving flight time limitations should utilize available general medical officers for medical evaluation. Comments should be made with regard to stress level and adequacy of rest and nutrition. Authorization from the squadron commanding officer and flight surgeon can then be made via message. Commanding officers should assure equitable distribution of flight time commitments among assigned flight personnel, commensurate with additional ground duties that each may be assigned.

Note

Flight operations involving contour, nap of the earth, chemical defense gear, night and night vision devices, and adverse environmental factors (dust, cloud cover, precipitation, etc.) are inherently more stressful and demanding than flying day VFR. The resultant fatigue may have a profound physiological effect upon mission capability. Mission planners should take this physiological threat into account in making modifications to normal crew rest/crew day guidelines.

8.3.2.3 Nutrition. All flight and ground support personnel shall be provided a positive program of information for the establishment and maintenance of good dietary habits. Failure to eat within 12 hours preceding end of flight may impair performance and ability to adequately control aircraft. Reducing diets should be under strict supervision of a flight surgeon.

8.3.2.4 Exercise. Planned physical fitness programs promote health. All levels of command are encouraged to establish approved physical fitness programs for all personnel in accordance with OPNAVINST 6110.1. Due consideration must be given to avoiding contact sports, skiing, etc. Adequate rest periods must be provided for aviators before flying following participation in competitive or particularly tiring sports activity. Twelve hours should normally be adequate.

8.3.2.5 Drugs. Drugs are defined as any chemical that when taken into the body causes a physiological response. All flight and support personnel shall be provided appropriate information by a command drug abuse education program.

a. Legal drugs are those medically prescribed or legally purchased for treatment of illness.

(1) Prescription drugs — Taking drugs prescribed by competent medical authority shall be considered sufficient cause for recommendation of grounding unless their use is specifically approved by a flight surgeon, or a waiver for specific drug use has been granted by BUPERS or the CMC. Consideration shall be given to the removal of ground support personnel from critical duties, for the duration of the drug effects, if appropriate. Medicines such as antihistamines, antibiotics, tranquilizers, sleeping pills, etc., obtained by prescription shall be discarded if all are not used during the period of medication.

(2) Over-the-counter drugs — Because of the possibility of adverse side effects and unpredictable reactions, the use of over-the-counter drugs by flight personnel is prohibited unless specifically approved by a flight surgeon. Ground support personnel shall be briefed on the hazards of self-medication and should be discouraged from using such drugs.

(3) Alcohol — The well-recognized effects (i.e., intoxication and hangover) are detrimental to safe operations. Consumption of any type of alcohol is prohibited within 12 hours of flight planning. Adherence to the letter of this rule does not guarantee a crewmember will be free from the effects of alcohol after a period of 12 hours. Alcohol can adversely affect the vestibular system for as long as 48 hours after consuming, even when blood-alcohol content is zero. Special caution should be exercised when flying at night, over water, or in IMC. In addition to abstaining from alcohol for 12 hours prior to flight planning, flightcrews shall ensure that they are free of hangover effects prior

to flight. Detectable blood alcohol or symptomatic hangover shall be cause for grounding of flight personnel and the restriction of the activities of aviation ground personnel.

(4) Tobacco — Smoking has been shown to cause lung disease and impair night vision, dark adaptation, and increase susceptibility to hypoxia. Smoking is hazardous to nonsmokers, as the effects occur whether smoke is inhaled directly or secondarily. Persons desiring to smoke shall show due consideration for the desires of nonsmokers in the vicinity and abstain from smoking if asked. Further guidance on smoking is contained in paragraph 7.1.9 of this instruction.

(5) Caffeine — Excessive intake of caffeine from coffee, tea, cola, etc., can cause excitability, sleeplessness, loss of concentration, decreased awareness, and dehydration. Caffeine intake should be limited to not more than 450 mg per day, or 3 to 4 cups of coffee.

b. The use of illicit drugs is prohibited.

8.3.2.6 Illness. Acute minor illnesses such as upper respiratory infections, vomiting, or diarrhea can produce serious impairment of flight personnel. All illnesses shall be evaluated by competent medical authority. Recommendations for grounding shall be accomplished by the submission of a grounding notice (BUMED 6410/1). Clearance notices (BUMED 6410/2) shall be issued only by a flight surgeon. Where a flight surgeon is not available, clearance notices shall be handled in accordance with BUMEDINST 6410.5. Flight personnel who are hospitalized shall be evaluated in accordance with current BUMED directives and a clearance notice issued prior to flight. Ground support personnel should be similarly monitored. Aircrew shall not fly for at least 48 hours after general, spinal, or epidural anesthetic. Return to flying status thereafter shall be upon the recommendation of a flight surgeon and at the discretion of the commanding officer.

8.3.2.7 Dental Care. Dental procedures that involve the use of injectable drugs (e.g., novocaine) shall be cause for grounding for a period of 24 hours.

8.3.2.8 Pregnancy

a. Because of the medical hazards of flight, pregnant flight personnel shall consult with their flight surgeon when they first suspect they are pregnant. Flight personnel are grounded during pregnancy unless a clearance to continue in flight status is granted by the aviation unit commanding officer. Consideration for such clearance should be based on desire of the pregnant aircrew member to continue flying; the formal recommendation and concurrence of her obstetrician and the recommendation and concurrence of the local or unit flight surgeon. The member shall submit her request to her commanding officer with these endorsements. Her request should acknowledge an understanding of the potential risks of continued flying during pregnancy. A copy of the commanding officer's final action shall be forwarded to the appropriate BUPERS code or CMC (ASM) and to NAVOPMEDINST (Code 42). If clearance to continue flying is not requested or granted, notification will be made to BUPERS or CMC and NAVOPMEDINST (Code 42). In either case, an estimated date of delivery and shall be included.

b. Flying during pregnancy is prohibited in single-piloted aircraft, ejection seat aircraft, high performance aircraft that will operate in excess of 2gs, aircraft involved in shipboard operations or flights with cabin altitudes that exceed 10,000 feet.

c. Clearance will be valid only until the start of the third trimester. Participation in aviation physiology, aviation water survival, or other survival programs is not permitted. If aviation physiology qualifications expire during the pregnancy, clearance for continued flying shall not be granted beyond the date of expiration of those qualifications.

d. Following completion of the pregnancy and return to full duty, a post-grounding physical shall be submitted to NAVOPMEDINST Code 42 for endorsement. This submission shall include information regarding any complications encountered during pregnancy as well as the health of the child and mother following delivery.

e. If the aircrew member becomes pregnant during aviation training, she shall be grounded until after completion of the pregnancy and return to normal full duty.

f. Normal uncomplicated pregnancy in female air traffic controllers is not considered physically disqualifying in itself. Specific duty modifications during the pregnancy if required should be managed locally.

8.3.2.9 Emotional Upset. Commanding officers must remain alert to the emotional and physical status of assigned personnel and take corrective action as may be necessary either for individuals or particular group (i.e., referral for professional evaluation, short stand down from flight duties, rest and recreation, leave, etc.).

Note

Commanding officers and flight surgeons shall comply with applicable directives pertaining to mental health evaluation of servicemembers (see SECNAVINST 6320.24, Mental Health Evaluations of Members of the Armed Forces). Individuals who fall under "Military Whistleblower Protection" guidelines (SECNAVINST 5370.7A) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local flight surgeons and legal officers.

8.3.2.10 Immunization/Injections. Flight personnel shall not participate in flight duties for 12 hours after receiving an immunization or injection unless cleared sooner by a flight surgeon. Those showing protracted or delayed reaction shall be grounded until cleared by a flight surgeon.

8.3.2.11 Blood Donation. Although blood donated in small quantities is quickly replaced and does not adversely affect ground activities, the hazards of hypoxia and reduced barometric pressure make it desirable to limit such donations by flight personnel in accordance with the following:

a. Flight personnel shall not be regular blood donors.

b. Flight personnel in combat or flying in a shipboard environment shall not donate blood within 4 weeks prior to such flying.

c. Flight personnel shall not participate in flight duties or perform low-pressure chamber runs for 4 days following donation of 450 cc of blood (1 pint).

8.3.2.12 Hypobaric Exposure. The following restrictions to flight following low-pressure chamber flights or accidental hypobaric exposure (rapid decompression in flight) apply.

a. Flight personnel shall not perform flight duties for 12 hours after exposure to low-pressure chamber flight in excess of 30,000 feet. They may fly during the 12 hours as passengers in aircraft where cabin altitude does not exceed 10,000 feet.

b. Individuals who have experienced a reaction to decompression (vasomotor collapse, unconsciousness, bends, etc.) in flight shall be immediately referred to a flight surgeon. Grounding and clearance shall be in accordance with paragraphs 8.3.2.6 and 8.5.1 of this instruction.

8.3.2.13 Hyperbaric Exposure. Under normal circumstances, flight personnel shall not fly or participate in low-pressure chamber flights within 24 hours following scuba diving, compressed air dives, or high-pressure chamber evolutions. Where an urgent operational requirement dictates, flight personnel may fly within 12 hours of scuba diving, provided no symptoms of aeroembolism/decompression sickness develop following surfacing and the subject is examined and cleared by a flight surgeon. Personnel participating in HEED or device 9H19 training may fly as passengers without restriction. Participation in flight duties is prohibited for 12 hours following HEED or device 9H19 training.

8.3.2.14 Beards. Beards are prohibited for those who use oxygen masks routinely. Flight personnel who do not wear masks routinely shall not wear a beard that would significantly interfere with safe oxygen mask functions during emergency use.

8.3.2.15 Eyeglasses. Corrective eyeglasses shall be worn as prescribed. The requirement to wear corrective lenses will be annotated on the clearance notice.

8.3.2.16 Dehydration. Of all causes of fatigue, one of the most treatable is dehydration. Early stages of dehydration can lead to emotional alterations and impaired judgment. Flightcrew should be aware of the following:

a. Heavily sweetened drinks should be avoided since sugar can slow the absorption of water in the body.

b. Alcohol and coffee (caffeine) are diuretics and will cause the body to lose more than it gains.

c. Ingestion of plain water throughout the day will reduce probability of dehydration and resultant fatigue.

8.3.2.17 Simulator Sickness. Simulator exposure can cause perceptual sensory changes that may compromise safety. The experience of symptoms such as nausea, disorientation, and sweating has occurred in fighter, attack, patrol, and helicopter simulators. Symptoms of simulator sickness may occur during simulator flight and last several hours after exposure. In some cases, the onset of symptoms has been delayed as much as 18 hours. The symptoms have occurred in both motion-base and fixed-base simulators to pilots and other aircrew as well as instructors. Preliminary data suggest that more experienced flight personnel may be at greater risk, as well as individuals who are new to the simulator. Flight personnel exhibiting symptoms of simulator exposure should abstain from same-day flying duties. Individuals who have experienced simulator sickness in the past have a greater probability of recurrence and

should not be scheduled to fly for 24 hours following simulator exposure. Adaptation does occur over time.

8.4 TRAINING

Numerous training requirements are covered in this section. Commanding officers shall ensure that all of the requirements are met and that all training is documented in the NATOPS flight personnel training and qualifications jacket (OPNAV 3760/32).

a. Adjunctive Aviation Physiology Training/ Physiological Threat Briefs — Adjunctive training will be provided by flight surgeons, aerospace physiologists, aeromedical safety officers (AMSOs), aerospace experimental psychologists, aviation physiology technicians, and/or aircrew survival equipmentmen (PRs) assigned with aerospace physiologists. The training shall be relevant to the operational threat and/or the training mission. It is designed to be conducted in squadron spaces on a more informal basis and in much greater depth than initial or refresher training. It shall not be considered a replacement for initial or refresher NAPTP/ NAWSTP training. Adjunctive lectures/threat briefs typically available are listed in Appendix E, Figure E-2.

b. Fleet Air Introduction/Liaison of Survival Aircrew Flight Equipment (FAILSAFE) Program — Commanding officers shall ensure that aircrews receive indoctrination whenever new or modified ALSS is introduced to the fleet. ALSS technical data indoctrination packages (TDIPs) provided by the Naval Air Systems Command to AMSOs and aviation physiology training departments will be used to satisfy requirements.

c. NVD Training Program — Indoctrination and refresher NITE Lab training are strongly encouraged for all aircrew involved in NVD operations.

(1) Indoctrination training is defined as the student's first attendance at a NITE Lab training facility, typically occurring during the student's FRS or night attack/systems training syllabus.

(2) Refresher training is defined as subsequent training provided at NITE Lab facilities, as required by the applicable USMC Training and Readiness Manual, USN TYCOM/Type Wing instruction or as requested by unit commanders.

(3) Personnel participating in initial/refresher NITE Lab training shall be graded as follows:

(a) Qualified (Q): Scoring 80 percent or higher on the sensor course examination.

(b) Unqualified (U): Failing to score at least 80 percent on sensor course examination. Disposition of students in this status will be at the discretion of the command.

8.4.1 General Aviation Survival/Emergency Egress Training

8.4.1.1 Ejection Seat Training. When transitioning to aircraft with a different type of ejection system, commanding officers shall ensure that a thorough brief on the new egress system is conducted before the initial flight. The training shall concentrate on the differences in the system (i.e., when to eject, the envelope of the new system, seat-man separation, ejection initiation, ejection sequence, normal operations, malfunctions, emergency ground egress, etc.). The training is specifically designed to be given by egress-system maintainers and aviators using the system. Commanding officers are encouraged to utilize flight surgeons and/or aerospace physiologists (if available) to address unique aeromedical and ALSS issues. Aeromedical personnel who by nature of their job/experience are knowledgeable about egress systems can be more involved in emergency egress training.

8.4.1.2 Interim Ejection Seat Training. Commanding officers shall ensure that interim static ejection seat/egress and emergency ground egress training is conducted annually. In addition, flight surgeons and/or aerospace physiologists (if available) should address the aeromedical aspects of ejection (e.g., ejection decisions, "how goes it" for the past year, seat malfunctions for the past year, ALSS issues, NVD issues, etc.). Renewal evaluation may be accomplished within 60 days preceding expiration of current evaluation and is valid for 12 months from the last day of the month in which the current evaluation expires. Otherwise, training shall be valid for 12 months from the last day of the month in which the evaluation is flown, utilizing appropriate, available local assets (i.e., AMEs, PRs, crash crews, etc.).

8.4.1.3 NVDs in Ejection-Seat-Equipped Aircraft. Flying with NVDs in ejection seat aircraft requires additional ejection/egress training for applicable aircrew and passengers using NVDs. Failure to remove NVDs prior to ejection may result in death or serious injury. NVD removal training will be incorporated into NVD initial training and annual ejection seat/ egress training. This training will include actual e

on removal of NVDs prior to ejection. The pilot in command of NVD demonstration flights will ensure that passengers or non-NVD qualified aircrew are thoroughly briefed and demonstrated proper technique of removing NVDs for ejection situations.

8.4.1.4 Nonejection-Seat-Equipped Aircraft. Commanding officers shall ensure that lectures/drills on bailout/emergency ground/water egress for other than ejection-seat-equipped aircraft (i.e., helicopters, cargo/transport, patrol, etc.) are conducted annually. Renewal evaluation may be accomplished within 60 days preceding expiration of current evaluation and is valid for 12 months from the last day of the month in which the current evaluation expires. Otherwise, training shall be valid for 12 months from the last day of the month in which the evaluation is flown, utilizing appropriate, available local assets (i.e., AMEs, PRs, crash crews, etc.).

8.4.2 Survival Training Programs

8.4.2.1 Naval Aviation Physiology Training Program/Naval Aviation Water Survival Training Program. Initial and refresher training shall be required for all officer and enlisted aircrew. The maximum interval between training measured from the last day of the month in which the training was conducted shall not exceed 4 years. Additionally, NAPTP/NAWSTP refresher training shall be required as follows:

a. For personnel who do not fly in a crew position for a period of 18 consecutive months prior to resuming flight status.

b. For personnel who transition to a different category of aircraft (as listed in Appendix E, Figures E-1 and E-6) during their 4-year cycle.

c. For flight personnel being assigned to a duty station where the appropriate refresher training is not available and current qualifications will expire during their tour. Commanding officers shall ensure that requirements are met before detaching personnel.

d. Personnel shall complete NAPTP/NAWSTP prior to commencement of a deployment if their qualifications will expire during that deployment.

Note

Aircrew in a DIFDEN status are not required to receive refresher NAPTP/NAWSTP training. Personnel under DIFDEN waivers are required to complete all appropriate NAPTP/NAWSTP training.

e. Personnel receiving NAWSTP training (N5, R1, R2, R3) at training activities outside of the Continental U.S. (OUTCONUS) shall complete remaining refresher training within 90 days after return to CONUS if ordered to duty in a flying billet. Qualification expiration is based on date of outconus qualification.

f. Survival training is not required for UAV flightcrew.

8.4.2.2 Active Duty Reserves (TAR/FTS) and Selected Reserve (SELRES/SMCR). Aircrew personnel ordered to units operating under the control of COMNAVAIRESFOR and CG FOURTH MAW shall receive appropriate initial training. Refresher NAPTP/NAWSTP training shall be completed at a CNO-approved site utilizing appropriate, available training devices. Refresher HEED (N7) training shall be completed at a site specifically approved for N7 training. Navy and Marine Corps Reserve aircrew personnel ordered to units flying in other than Reserve aircraft shall comply with the appropriate training criteria. Waivers of training criteria for Reserve personnel are in accordance with paragraph 8.4.2.7 of this section.

8.4.2.3 Records. Personnel reporting for NAPTP/NAWSTP training shall deliver their NATOPS flight personnel training/qualification jackets (OPNAV 3760/32) with a current Aeromedical Clearance Notice (BUMED 6410/2) to the training site. The training site shall ensure that appropriate entries are made in the NATOPS flight personnel training and qualifications jacket. Completed and/or obsolete forms shall not be removed from the NATOPS jacket and discarded. They are to be retained as a permanent part of the NATOPS jacket.

8.4.2.4 Physical Prerequisites for Participation in the NAPTP/NAWSTP

a. All prospective and designated flight personnel on competent flight orders shall have an Aeromedical Clearance Notice (BUMED 6410/2) prior to participation in the NAPTP/NAWSTP. The documentation shall be signed by a naval flight surgeon (FS), aviation medical examiner (AME), or aviation medical officer (AMO).

b. With regard to naval aviator and enlisted aircrew candidates entering initial aviation training at the Naval Aviation Schools Command (NAVAVSCOLSCOM), the following exceptions to paragraph 8.4.2.4a are authorized:

(1) For cases where NAVOPMEDINST has completed a flight physical but cannot issue an Aeromedical Clearance Notice (BUMED 6410/2)

pending administrative processing, NAVOPMEDINST may certify the candidate physically qualified to commence initial training utilizing NAVOPMEDINST 6120/2.

(2) Naval aviator candidates and aircrew candidates awaiting waiver approval for a physical defect may be transferred from NAVAVSCOLSCOM to further aviation pipeline training upon recommendation from NAVOPMEDINST and commanding officer, NAVAVSCOLSCOM. In no case shall they be allowed to commence actual flight training until any required waiver is approved by BUPERS or CMC (ASM) and an Aeromedical Clearance Notice (NAVMED 6410/ 2) is issued by a flight surgeon.

c. Selected passengers, project specialists, special operations personnel, midshipmen, VIPs, government contractors, Federal Government agencies (except NASA), and civilian agencies shall have an Aeromedical Clearance Notice (BUMED 6410/2) or Medical Clearance for Nonmilitary/Nonaircrew Personnel To Fly In USN/USMC Aircraft (OPNAV 3710/18 (3-95)) (Figure 8-5) for participation in the NAPTP/NAWSTP. The medical clearance will be valid for 1 year.

d. Appropriate medical clearances for other U.S. military and USCG/NASA personnel participating in the NAPTP/NAWSTP may be signed by those services' or agencies' medical officers, signifying that the individual is physically qualified for participation in NAPTP/NAWSTP.

e. Physical prerequisites for other personnel not identified above shall be determined on a case-by-case basis by CNO (N889) or CMC (ASM).

f. Personnel attending NAPTP/NAWSTP lectures only do not require medical clearances.

g. The same human factors/aeromedical qualifications concerning rest and sleep, drugs, and alcohol that appear in paragraph 8.3.2 shall apply to physiology and/or water survival training.

8.4.2.5 Selected Passengers. The flight-approving authority shall ensure that personnel flying in aircraft equipped with ejection seats and/or personal oxygen systems that are used for primary life support have documentation of completion of required physiology and water survival training. Waivers to this requirement for individuals participating in orientation/indoctrination flights will, in general, not be granted. If absolutely required, waiver requests shall be submitted to CMC (Code ASM), fleet commanders in chief; CINCUSNAVEUR; COMNAVAIRSYSCOM; the CNET; COMNAVAIRRESFOR, as appropriate. CNO (N8 will be an information addressee on all such waive requests and approvals. If a waiver is granted by the above commands, the pilot in command shall ensure that the individuals are thoroughly briefed on installed life support and emergency egress systems and survival equipment prior to flight.

8.4.2.6 Training Waivers/Qualification Extensions. Except as specified in paragraph 8.4.2.5, personnel delinquent in the minimum NAPTP/NAWSTP refresher training requirements shall not be scheduled to fly unless a waiver/qualification extension has been granted by the appropriate type commanders or in accordance with this instruction. CNO or CMC may grant such a waiver/qualification extension if the preceding waiver authorities are not in the chain of command.

8.4.3 Naval Aviation Physiology Training Program

8.4.3.1 Aviation Physiology Training. The purpose of aviation physiology training is to familiarize all prospective and designated aeronautical personnel, selected passengers, project specialists, and any other authorized personnel with the aeromedical aspects flight and prepare them to properly employ ALSS a survival procedures.

8.4.3.2 Training Content. This shall be accomplished by training that includes the following specific areas: basic human physiology with emphasis on cardiovascular, respiratory, auditory, vestibular, visual, and musculoskeletal systems; environmental stresses including noise, heat, vibration, acceleration, disorientation, and altitude; health and physical fitness; self-imposed stress; self-medication; hands-on egress training and hands-on training in ALSS and their utilization; and combat and survival first-aid. Commanding officers, aerospace physiologists, flight surgeons, and training and safety officers shall monitor the program to ensure that the curriculum supports their requirements.

8.4.3.3 Coordination. CNET shall coordinate the training requirements of CMC, TYCOMs, CNATRA, and COMNAVAIRESFOR. NAPTP curricula shall be submitted to CNO (N889) for approval. Curricula shall be developed by NAVOPMEDINST, the NAPTP model manager, and sent to BUMED via CNET. The curriculum shall be developed with the technical advice of other naval activities as necessary. CNO (N889)- approved curricula shall be distributed by NAVOPMEINST to NAPTP for implementation. Initial and refresher training shall be accomplished at U.S. Navy

CLEARANCE FOR NONMILITARY/NONAIRCREW PERSONNEL TO FLY IN USN/USMC AIRCRAFT

THIS FORM SHALL BE PROVIDED BY THE FLIGHT APPROVING AUTHORITY

TO THE APPLICANT PLEASE READ CAREFULLY: You are requesting clearance to fly in military aircraft as a nonaircrew observer. Prior to flying, you are required to complete aviation physiology and aviation water survival training. These training programs require a high level of fitness and stamina. You will be required to complete training in complete flight gear, including helmet, gloves, boots, flight suit, parachute harness, and survival vest. Training includes a 25-yard surface swim, treading water for 2 minutes, drownproofing for 2 minutes, and orally inflating your life preserver. Underwater egress training requires you to swim 15 yards underwater in a flight suit and boots. Additionally, you will receive hypoxia recognition training in a hypobaric chamber to simulated altitude of 25,000 feet. Actual flight may be in *high performance ejection seat aircraft capable of sustained high g-force maneuvering.* To obtain clearance to fly in military aircraft, you are required to obtain a physical examination from your personal physician at your expense. Please fill out the medical questionnaire and have your physician fill out the physical examination section of this form. You must then present this completed form to a Navy Flight Surgeon for endorsement for training and flight.

YES	NO	Medical Questionnaire - Do you have or have you ever had:
☐	☐	1. Disease of the eyes, ears, sinuses, seasonal allergies, hayfever, difficulty with clearing your ears, or pain in your ears or sinuses from diving or flying?
☐	☐	2. Chest pain, angina, heart attack, heart disease, heart murmur, pa[illegible]tions, cardiac catherizations, or pacemaker?
☐	☐	3. Hypertension, stroke, blood clots in legs, swelling i[illegible]et, or ex[illegible]igue with mild exertion?
☐	☐	4. Asthma, wheezing, emphysema, chronic c[illegible], t[illegible]llapsed lung, or shortness of breath with mild exertion?
☐	☐	5. Disease of the bowel, ulcers, [illegible], c[illegible]nic abdominal pain, hernia, kidney stone, or painful or frequent urination?
☐	☐	6. Arthritis, jo[illegible]form[illegible]ic[illegible]ck pain, or limitation of use of your back or extremities?
☐	☐	7. Paralysis, [illegible]uscles, seizures, epilepsy, migraine or other severe headaches, loss of consciousness, a[illegible]nesia?
☐	☐	8. Mania, depression, schizophrenia, suicide attempt, alcoholism, panic attacks, fear of flying, fear of heights, fear of enclosed spaces?
☐	☐	9. Anemia, diabetes, cancers, arterial gas embolism, bends, surgery, hospitalization, or other chronic medical conditions not listed?
☐	☐	10. Are you currently pregnant?
☐	☐	11. Are you currently taking any medication? List:
☐	☐	12. Can you jog 15 minutes continuously and swim 100 yards?

Applicant's Name _____ Age _____ Sex _____

Address _____ Phone _____

Signature _____ Date _____

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Figure 8-5. Clearance for Nonmilitary/Nonaircrew Personnel To Fly in USN/USMC Aircraft (Sheet 1 of 2)

TO THE EXAMINING PHYSICIAN

This person is seeking clearance to fly military aircraft as a nonaircrew observer. He or she will be required to complete aviation physiology and water survival training. These training programs are designed as high risk training (described on the front of this form) and require a high degree of physiology and psychological stamina. Completion of these training programs may lead to actual flight in high performance ejection seat aircraft capable of sustained high g-force maneuvering. The purpose of this evaluation is to clear this individual for the required training as well as actual flight.

Please Complete and Elaborate on all Abnormal Findings and Positive Responses

Height _____ Weight _____ Temp _____ Pulse _____ Resp _____ B/P _____

Corrected Visual Acuity: Right _____ Left _____ Hearing: (Normal/Abnormal) _____

HGB or HCT _____ Urinalysis: Glucose _____ Protein _____ Ketone _____ Sp. Gravity _____

EKG (within last 12 months) _____ Chest XRAY (within last 3 years) _____

NL	ABN		Elaboration and Comments
☐	☐	HEENT (include eustachian tube patency)	
☐	☐	Heart and Vascular	
☐	☐	Chest and Lungs	
☐	☐	Abdomen, Genitalia, and Hernia	
☐	☐	Spine, Extremities, and Musculoskeletal	
☐	☐	Neurological	
☐	☐	Mental Status	

This person is medically fit to participate in aviation physiology and water survival training as well as actual flight in high performance military aircraft.

Examining Physician's Signature _____ Phone # _____ Date _____

Flight Surgeon's Endorsement: Type Aircraft _____ Qualification PQ NPQ
For physiology and water survival training, and flight in military aircraft as a selected passenger.

Signature _____ Date _____
(Note: Scope of examination at the discretion of the Flight Surgeon)

Physiology Training: Curriculum _____ Qualification Q CQ UQ

Authorized Signature _____ Date _____

Water Survival Training: Curriculum _____ Qualification Q CQ UQ

Authorized Signature _____ Date _____

Commanding Officer's Endorsement: Type Aircraft _____ Approved ☐ Disapproved ☐

Signature _____ Date _____

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Figure 8-5. Clearance for Nonmilitary/Nonaircrew Personnel To Fly in USN/USMC Aircraft (Sheet 2 of 2)

and U.S. Air Force aviation physiology training facilities approved by CNO (N889) and listed in Appendix E, Figure E-3. NAVOPMEDINST shall, in coordination with BUMED, evaluate and standardize an approved curriculum, procedures, equipment, and devices. The NAPTP model manager is also responsible for the development/distribution/ duplication of training support materials for the NAPTP curricula and the adjunctive training subjects. The NAPTP model manager shall conduct evaluations as directed by N889 of all CNO-approved NAPTP training sites listed in Appendix E, Figure E-3.

8.4.3.4 Training Requirements. All flight personnel and those individuals listed in Appendix E shall successfully complete the CNO-approved course of instruction indicated in Appendix E, Figure E-1. The training shall be accomplished as follows:

a. Initially, prior to flight in any naval aircraft.

b. Refresher syllabus in accordance with paragraphs 8.4.2.1, 8.4.3.5, and Appendix E.

c. Joint training recognition — All elements of NAPTP and United States Air Force (USAF) physiology training shall be recognized as meeting either service's requirements except for aircraft/service specific training, such as ejection seat and ALSS training.

8.4.3.5 Approved Curricula (NAPTP)

a. Initial Physiology Training (NP) — See paragraph 1.3 of this instruction for a definition of terms used to determine appropriate NAPTP course of instruction.

Note

Initial physiology courses are not to be substituted for one another. When additional training is received (e.g., ejection seat training), NP1 or NP2 is the prerequisite and is used for the determination of the 4-year training interval.

(1) NP1. Required for all prospective active-duty USN and USMC aeronautically designated personnel. The training is conducted *only* in Pensacola, Florida.

(2) NP2. Required for all prospective military/ civilian aeronautically designated personnel, special mission personnel, or other individuals on flight orders trained outside Pensacola, FL, including USMC helicopter aerial gunners/observers and enlisted noncrewmembers on flight orders. Civilian contractor flight operations are governed by NAVAIRINST 3710.1.

(3) NP3. Required for all selected passengers. NP3 training is good for 36 months in the same category aircraft but may be required more frequently if specified by the flight-approving authority. NP3 training includes LANT/PAC/MED TRAMID.

(4) NP4. Required for all project specialists. NP4 training is good for 36 months in the same category aircraft, but may be required more frequently if specified by the flight-approving authority. The training may be accomplished at any location by a PQS-qualified aerospace physiologist.

(5) NP5. Centrifuge-Based Flight Environment Training (CFET).

(a) All tactical jet aircrew flying AV-8, EA-6, F-5, F-14, F-16, F/A-18 aircraft shall receive initial CFET training appropriate to their fleet aircraft prior to reporting for FRS training. Tactical jet aircrews who have not received centrifuge/dynamic training shall receive CFET as soon as operationally practical.

(b) Optional CFET shall be made available upon request by tactical jet aircrew.

(c) Waivers for initial CFET shall be granted by appropriate type commander when necessary.

(6) NP6. Required for all special operations personnel requiring high-altitude parachute (HAP) training. NP6 training qualification is good for 36 months. This training meets USAF HAP training requirements.

(7) NP7. Required for all PROTRAMID/ CORTRAMID midshipmen who are going to fly in naval aircraft. NP7 training is specific for the type of aircraft being flown. The training is good for one flying indoctrination period of time, not to exceed 90 days.

(8) NP8. Required for all VIPs (nonaviators). NP8 training is specific for the type of aircraft being flown. The training is good for only one flight but can be extended by the flight-approving authority.

(1) RP1. Required for aircrew flying ejection seat equipped aircraft.

(2) RP2. Required for aircrew flying fixed-wing nonejection seat aircraft equipped with parachutes and/or pressurization systems.

(3) RP3. Required for aircrew flying helicopters/tilt-rotors including USMC helicopter/tilt-rotor aerial gunner/observers and enlisted noncrewmembers on flight orders. LPC is required for tilt-rotor aircrew members.

(4) RP4. Required for all project specialists.

(5) RP6. For all special operations personnel requiring HAP training. RP6 training qualification is good for 36 months. This training meets USAF HAP training requirements.

(6) RP7. Required for all selected passengers.

Note

The above refresher courses may be substituted for one another, with adequate justification, as long as the required elements identified by an (X), listed in Appendix E, Figure E-1, are completed. Authorized training units may document (stamp) multiple qualifications for designated aviators meeting the required elements.

c. Other U.S. military services and foreign military aviators flying USN/USMC aircraft will complete the appropriate aircraft/service-specific curriculum elements of RP1/RP2/RP3. These aviators shall meet U.S. Navy quadrennial refresher training requirements.

8.4.3.6 Grading

a. Initial Training — Personnel who do not successfully complete all portions of initial training shall be classified as Unqualified.

b. Refresher Training — Personnel participating in NAPTP courses shall be graded as follows:

(1) Qualified (Q). Successfully completed all aspects of required training.

(2) Conditionally Qualified (CQ). Given to refresher personnel who have not successfully completed any one of the requirements identified by an (X) in Figure E-1. Personnel in that status may continue on flight status but must successfully requalify in only those elements not successfully completed. Failure to receive a grade of Qualified in the CQ area within 90 days results in an automatic grade of Unqualified and will require completion of the entire curriculum. Requalifications can take place at any CNO-approved NAPTP unit with the appropriate training device (if a training device is needed) or the lectures can be given by a JQR-qualified aerospace physiologist. Initial students are not entitled to a grade of CQ.

(3) Unqualified (U). Individuals who do not complete two or more of the requirements identified by an (X) in Figure E-1 shall receive an Unqualified. Personnel in that status shall be grounded until they successfully obtain a grade of Q or CQ.

c. Inoperative Devices/Inclement Weather — Personnel participating in refresher training who are unable to complete a particular device because of equipment malfunction or inclement weather shall receive an overall grade of Qualified if they have successfully completed all other areas. Notation of the device training not received shall be made in the individual training jackets. Personnel participating in initial training must complete all devices to receive a grade of Q.

8.4.4 Naval Aviation Water Survival Training Program

8.4.4.1 Water Survival Training. NAWSTP shall prepare prospective and aeronautically designated personnel, selected passengers, project specialists, and other authorized personnel for survival in the water. This is accomplished through lectures, demonstrations, practical experience in CNO-approved water survival procedures and techniques, and hands-on training using ALSS and survival procedures.

8.4.4.2 Coordination. CNET shall coordinate the training requirements of CMC, TYCOMs, CNATRA, and COMNAVAIRESFOR. Curricula shall be developed by the model manager of NAWSTP based on the needs of naval commands noted above and employing the technical advice of BUMED and other activities as necessary. NAWSTP curricula will be submitted to CNO (N889) via CNET and BUMED for approval and then provided to designated NAWSTP sites for implementation. NAVOPMEDINST, the naval aviation water survival (NAWS) model manager, shall develop, evaluate, and standardize NAWSTP procedures for approval by CNO (N889). The NAWS model manager shall conduct evaluations, as directed by N889, of all CNO approved training sites listed in Appendix E, Figure E-4.

8.4.4.3 Definitions. The following terms defined in paragraph 1.3 are used in determining appropriate courses of NAWSTP instruction — aircrew, DIFCREW (USN), DIFTEM (USN), special mission personnel, enlisted crewmember (USMC), enlisted noncrewmember on flight orders (USMC), civilian aircrew, selected passengers, frequent flyers, and project specialists.

8.4.4.4 Graded Elements. Elements of training identified by an asterisk (*) in Appendix E, Figure E-5, are considered graded and must be satisfactorily demonstrated in accordance with standards established in CNO-approved curricula. Other elements of training are not to be graded in refresher training and will be for experience only, but they must be completed.

8.4.4.5 Training Requirements. NAWSTP includes initial and refresher curricula. For initial students, NAPTP requirements shall be completed prior to NAWSTP training (except for N1), and all survival swimming requirements shall be completed prior to device training.

a. Initial and refresher training (except N4) shall be completed at a CNO-approved site listed in Appendix E, Figure E-4.

(1) Aircrew, selected passengers, and project specialists shall successfully complete the CNO-approved course of instruction in Appendix E, Figure E-5.

(2) Appendix E, Figure E-6, lists appropriate courses for various categories of aircraft.

b. Initial Training — NAWSTP initial training is required for all prospective aeronautically designated personnel (officer or enlisted) prior to flight in any naval aircraft. Initial training (Course D-050-1500, Aviation Enlisted Aircrew Training School) is mandatory for all USN-enlisted aircrew or prospective aircrew on DIFCREW/DIFTEM orders and all USMC-enlisted crewmembers excluding those identified in paragraph 8.4.4.6a(5).

c. Refresher Training — NAWSTP refresher training is to be a learning experience. Proper demonstration of graded elements for certain training items is required (see paragraph 8.4.4.4).

d. Additional Training — Frequent flyer and other authorized personnel (Marine Recon, USN/USMC special operations, etc.) may be given additional device training when requested in writing by parent command.

8.4.4.6 Approved Curricula

a. Initial Training

(1) N1. Required for all prospective active-duty USN, USMC, and USAF aircrew (aeronautically designated personnel), excluding those identified in paragraph 8.4.4.6a(5). N1 training is conducted only at NAS Pensacola. Modules (Figure E-5) B, C, D, E (excluding USAF), F, M1, and M2 are prerequisites for initial (N1) device training.

(2) N2. Required for all VIP/PROTRAMID/CORTRAMID personnel. Course provides basic water survival training primarily focusing on use of life support equipment for one-time flights.

(3) N3. Required for selected passengers and for LANT/PAC/MED TRAMID midshipmen who are going to fly in naval aircraft. N3 training is good for 36 months in same category aircraft but may be required more frequently if specified by the flight-approving authority.

(4) N4. Required for project specialists and Joint Service Battlestaff personnel and is valid for 36 months in the same category aircraft. Training may be required more frequently if directed by flight-approving authority.

(5) N5. Required for civilian aircrew; USN/USMC-enlisted Selected Reservists (SMCR/SELRES); USN special-mission personnel; USMC aerial observers, navigation officers, and door gunners; exchange aircrew (U.S. and foreign); and noncrewmembers on flight orders. For personnel remaining on flight status, refresher training requirements shall be as stated in paragraph 8.4.2.1. Civilian contractor flight operations and pilot qualifications are governed by NAVAIRINST 3710.1. N5 is the appropriate initial training for all aircrew or personnel on flight orders who have not completed N1 training. For aircrew equipped with a torso harness and/or ejection seat, outside of the CNATRA pipeline, N5 (jet) training shall be provided vice the N1/N6 combination. When an aircrewman has previously completed N5 (prop/helo) or N1, R1 training shall be the appropriate course to complete.

(6) N6. Required for all aircrew selected to fly ejection seat-equipped aircraft and other aircrew within CNATRA pipeline. N1 is the prerequisite and is used for determination of the 4-year training interval.

(7) N7. HEED training is required for all aircrew who fly helicopters/tilt-rotor/E-2/C-2 and other personnel authorized by CNO to use the device. N7 is advanced training and shall be conducted only after successful completion of N1, N3, N5, or N9.

(8) N8. Basic survival swim course that may be used as remedial training for any NAWSTP course or as prerequisite course prior to N3, N4, N5, or N9 training.

(9) N9. Basic survival course in underwater egress training in device 9D5A for all nonaircrew whose duty assignments necessitate frequent overwater flights (e.g., flag officers, embarked staff/ship personnel, doctors, dentists, chaplains, etc.), and other authorized personnel.

(10) N10. Basic survival course in underwater egress for aircrew authorized to use current chemical, biological, and radiological (CBR) ensembles. N10 is training that shall be conducted only after successful completion of N1 or N5. Refresher training using the device shall be completed in accordance with paragraph 8.4.2.1.

Note

N3, N4, N5, and N9 curricula provide aviation-specific water survival training. They provide minimal instruction in basic swimming. Students shall report for training with the following prerequisites: USN/USMC aircrew — U.S. Navy 2nd class swimmer or better; USMC helicopter assault troops — Marine Corps Water Survival CWS3 (to include survival flotation instruction) swimmer or better; all others — U.S. Navy 2nd class swimmer (refer to MILPERSMAN) or better.

b. Refresher Training

(1) R1. Required for aircrew flying ejection seat equipped aircraft. This is the appropriate training for all USN/USMC aircrew who were initially qualified in a parachute-equipped or nonparachute-equipped-aircraft and are transitioning to an aircraft where they will be equipped with an ejection seat.

(2) R2. Required for aircrew flying nonejection-seat-equipped aircraft with parachutes.

(3) R3. Required for aircrew flying nonparachute-equipped aircraft.

Note

R1 or R2 training may be substituted for R3 training. Additional training for all other combinations shall be specified in the NAWSTP refresher curriculum, Appendix E.

8.4.4.7 Grading

a. Initial Training — Personnel who do not successfully complete any portion of initial training shall be classified as Unqualified with the following exceptions:

(1) N5 students who have not completed device training shall be classified as CQ but may not fly while in that status.

(2) Device training not accomplished because of inoperative devices/inclement weather as described in paragraph 8.4.4.7c.

b. Refresher Training — Personnel participating in NAWSTP curricula shall be graded as follows:

(1) Qualified (Q). Successfully completed all aspects of required training.

(2) Conditionally Qualified (CQ). Given to fresher students who fail to successfully compl one of the refresher training requirements in Appendix E, Figure E-5, and N5 students prior to device training. Personnel given a grade of CQ may continue on flight status (except initial students) but must requalify only in the training requirement or graded element not successfully completed. Failure to achieve a grade of Qualified in the CQ area within 90 days will result in a grade of Unqualified and will require completion of the entire curriculum. Remediation may take place at any CNO-approved NAWSTP site capable of completing the deficient training item. Upon successful completion of training, the NAWSTP site providing remediation shall then upgrade the student status to Q.

(3) Unqualified (U). Personnel in this status shall be grounded until they successfully achieve a grade of Q or CQ. Individuals who fail to successfully complete two or more of the items or graded elements in Figure E-4, or fail the final examination, shall receive an Unqualified. Deficient areas shall be completed within 90 days. After 90 days, the individual shall repeat the ent curriculum.

(4) Reserve personnel (other than those on the active duty list), operating under the control of COMNAVAIRESFOR, may receive a Q for R1, R2, and R3 without receiving device training by those reserve sites specified in Appendix E. If NAWSTP refresher training is completed at an active-duty site where training devices are available, they shall be used as appropriate. All aircrew using the NAWSTP refresher curriculum as initial training to transition to a new aircraft shall receive device training.

c. Weather/Equipment Delays — Personnel participating in initial training (N1 and N6 only) who are unable to complete a particular training evolution because of equipment malfunctions or inclement weather may receive an overall grade of Qualified if they complete approved alternate training. Personnel participating in refresher training who miss a particular training evolution for this reason may receive a grade of Qualified if they successfully complete all other areas. Missed training elements shall be annotated as incomplete in individual training jackets.

8.4.4.8 Environmental Exposure. Flight personnel shall not participate in flight duties for 12 hours after completion of the following NAWSTP device training: 9H21 (MOD N2), 9H19 (MOD 0), 9E8 (MOD P), or 9D5 (MOD N1). During these 12 hours, they may fly as passengers.

8.4.5 Search and Rescue Pilot/Rescue Swimmer Training

a. The purpose of this program is to promote standardization of SAR procedures and to establish a minimum SAR training program for personnel assigned search and rescue duties aboard aircraft. Units involved are those that are established primarily to fulfill search and rescue mission responsibilities or that may be assigned search and rescue responsibilities in conjunction with other mission areas. The search and rescue model manager (SARMM), Helicopter Combat Support Squadron Three (HELSUPPRON THREE/HC-3), establishes SAR procedures and ensures standardization. Type commanders shall designate SAR evaluation units within their command to train, evaluate, and assist individual units/commands in developing and implementing search and rescue programs.

b. Requirements for training, proficiency, and requalifications for the SAR pilot and the rescue swimmer are presented in OPNAVINST 3130.6 and shall be considered minimum standards. Commands are encouraged to supplement those listed requirements with additional training pertinent to local mission requirements.

c. The rescue swimmer school training program (RSSTP) shall prepare designated aircrew and selected aircrew candidates for SAR swimmer duties. This is accomplished through lectures, demonstration, practical experience in CNO-approved rescue procedures/techniques and hands-on training using aviation life support and rescue equipment.

d. The NAVAVSCOLSCOM is designated the Rescue Swimmer School Model Manager (RSSMM). The RSSMM establishes RSSTP procedures for approval by CNO (N889), provides oversight of the RSSTP, and ensures standardization through the following:

(1) Instructor Training — The RSSMM shall conduct the Rescue Swimmer Instructor Course and issue the RSSTP Core Unique Instructor Training Program.

(2) Curricula Management — CNET shall coordinate the training requirements of CMC, TYCOMs, CNATRA, and the USCG; the RSSMM shall chair curricula conferences. The RSSMM shall develop and revise RSSTP curricula for CNO (N889) approval via CNATRA and CNET based upon the needs of the commands noted above, utilizing the procedures established by the SARMM, and employing the technical advice of BUMED.

(3) Training Analysis — The RSSMM shall monitor the attrition, rollback, and mishap trends of the RSSTP.

(4) Site Evaluations — The RSSMM shall conduct annual evaluations of CNO-approved training sites at HC-3; HS-1; Fleet Training Center, San Diego; and NAVAVSCOLSCOM, Pensacola.

8.4.5.1 Definitions. The following terms contained in paragraph 1.3 are relevant: competent authority, designations, DIFCREW, enlisted crewmember (USMC), naval aircrewman (NAC).

8.4.5.2 Training Requirements. RSSTP includes initial and refresher training programs. All Category I aviation rescue swimmer school training shall be conducted at Naval Aviation Schools Command, NAS Pensacola. Category II aviation RSS training shall be conducted at HC-3, NAS North Island and HS-1, NAS Jacksonville.

8.4.5.3 Prerequisites

a. Initial Training — Satisfactory completion of NACCS within the preceding 6 months or be designated a naval aircrewman. Must have a current flight physical, aeromedical clearance notice (BUMED 6410/2), and be current in all aviation water survival and aviation physiology training in accordance with the provisions of this chapter.

b. Refresher Training — Be a graduate of a CNO-approved rescue swimmer school. Must be designated a naval aircrewman, have a current flight physical and aeromedical clearance notice (BUMED 6410/2), and be current in all aviation water survival and aviation physiology training in accordance with the provisions of this chapter.

8.5 AVIATION PHYSICAL EXAMINATIONS AND QUALIFICATIONS

8.5.1 General Requirements. Physical standards as established by BUMED are to be met as a continuing requirement, not solely at the time of the required physical examination. Physical qualification as certified by an appropriate physical examination is a prerequisite for flight for all aircrew personnel. Commanding officers shall suspend from flight duties all aircrew personnel who have not met annual flight physical qualifications. The physical may be accomplished starting the first day of the month preceding the birth month. Flight personnel who have not initiated an aviation physical examination by the last day of their birth month shall be considered not to have met annual flight physical qualifications. Flight personnel delinquent in receiving an aviation physical examination shall not be scheduled to fly unless a waiver has been granted by BUPERS/CMC. UAV flightcrew shall follow provisions of this section. Specific flight physical requirements for UAV flightcrew can be found in MANMED.

8.5.2 Required Evaluations. Flight surgeons shall keep flight personnel under surveillance so that physical illness, fatigue, and emotional upset will be readily detected. Commanding officers shall establish administrative procedures to assure that all flight personnel report to a flight surgeon whenever their fitness to fly is questionable. Flight surgeons shall conduct interviews and/or physical examinations of aircrew personnel and make recommendations to the member's commanding officer as follows.

Note

Commanding officers and flight surgeons shall comply with applicable directives pertaining to mental health evaluations of servicemembers (see SECNAVINST 6320.24, Mental Health Evaluations of Members of the Armed Forces). Individuals who fall under "Military Whistleblower Protection" guidelines (SECNAVINST 5370.7) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local flight surgeons and legal officers.

8.5.2.1 Periodic Flight Physical Examinations. All aircrew and duty involving flight denied (DIFDEN) personnel shall be examined at regular intervals as prescribed by MANMED.

Note

Physical examinations that have been conducted but are not completed because of additional consultation or administrative reasons shall be considered to have met the requirements for annual certification, unless the individual is found to be not physically qualified during the examination, or the determination of physically qualified must be held in abeyance awaiting consultation. A clearance notice shall be issued in support of satisfying the requirements.

8.5.2.2 Check-In. Upon reporting (including TA for flying only) to a new unit or base.

8.5.2.3 Postgrounding. Following grounding for medical reasons.

8.5.2.4 Posthospitalization. Following return to duty after any admission to the sick list or hospital (including medical boards). A grounding notice (BUMED 6410/1) shall be issued for all admissions and a clearance notice (BUMED 6410/2) shall be issued when aircrew personnel are returned to flight duties.

8.5.2.5 Postmishap. As necessary to meet the requirements of OPNAVINST 3750.6.

8.5.2.6 As Directed by Higher Authority. When required of competence for duty, followup for waivers, etc.

8.5.3 Scope of Examinations. The extent of these examinations shall be determined by the flight surgeon, as directed by MANMED or OPNAVINST 3750.6. Notation of such examinations shall be entered in the individual's health record and reported to the commanding officer and, as required, via NAVOPMEDIN. (Code 42) to BUPERS/CMC.

Note

All Class I aviation personnel will receive a manifest refraction to best visual acuity (BVA) at the time of their annual flight physical. In the case where spectacles are worn, if the current spectacles do not correct to 20/20 or better in both eyes, the aviator is grounded until a current prescription can be obtained. In the case where spectacles had not previously been required, the aviator is grounded until spectacles are obtained to correct the visual acuity to 20/20 or better in both eyes.

8.5.4 Disposition of Aircrew Found Not Physically Qualified (NPQ)

8.5.4.1 Physical Standards. Aircrew personnel are expected to maintain appropriate physical standards at all times. However, medical conditions may preclude such physical qualifications for short or long periods. When aircrew personnel are unable to meet required physical standards for periods exceeding 60 days, an aviation physical examination shall be completed. Typed Standard Form 88 (SF 88) with appropriate consultations and flight surgeon recommendations shall be forwarded to NAVOPMEDINST (Code 42). NAVOPMEDINST (Code 42) shall review and make a recommendation to BUPERS or CMC as appropriate.

Note

Personnel not physically qualified for flight will normally continue to receive aviation career incentive pay (ACIP) for up to 180 days from the date of incapacitation. Final determination on ACIP eligibility resides with BUPERS/CMC and the PAYPERSMAN.

8.5.4.2 Waiver of Physical Standards. Aircrew personnel who do not meet physical standards may be considered for a waiver of such standards. Such a waiver may be granted on the need of the service, consistent with training, experience, performance, and proven safety of the aircrew personnel. In such cases, the following procedures shall be followed:

a. A request for waiver of physical standards may be initiated by the member, the commanding officer or by a flight surgeon. If the waiver is not initiated by the commanding officer, the commanding officer shall submit a forwarding endorsement. The request shall contain recommendations as to the operational advisability of the waiver, including limitations as to aircraft type, in-flight duties, etc. Included in this waiver request shall be an appropriate aeromedical evaluation by the supporting medical treatment facility. The evaluation shall be presented on a typed SF 88, with appropriate consultations. A flight surgeon shall include medical recommendations as outlined in the MANMED. The waiver request shall be forwarded via the appropriate chain of command and NAVOPMEDINST (Code 42) to BUPERS, or CMC (ASM), as appropriate.

b. NAVOPMEDINST (Code 42) shall review the medical evaluation and forward a recommendation to BUPERS, or CMC (ASM), as appropriate.

c. BUPERS, or CMC (ASM), as appropriate, shall review the request and recommendations and take appropriate action. In general, one of the following dispositions shall be made:

(1) Grant a waiver of standards to permit continued unrestricted flight status.

(2) Grant a waiver of standards to a restricted flight status that may include limitations in service group, aircraft type, mission type, in-flight duties, duty location, operational tempo, or other requirements.

(3) Restrict from all duties involving flight with a statement concerning whether the disqualifying defects are considered temporary or permanent.

8.5.4.3 Flight Status. In cases where flight status is terminated, BUPERS, or CMC (ASM), as applicable, shall determine if the individual is to be retained within the aeronautical organization or assigned to duty outside the aeronautical organization.

8.5.4.4 Disposition. For aircrew personnel whose aeromedical disposition is considered uncertain by the examining flight surgeon, consideration shall be given to appearance before an appropriate board of flight surgeons (see MANMED).

8.5.4.5 Limited Duty (LIMDU). Aircrew personnel placed on LIMDU status by medical board action shall be considered to be physically incapacitated for all duty involving flight and all related training until such time as returned to flight status by medical board action and endorsement of a current flight physical by NAVOPMEDINST (Code 42). The LIMDU board report and a typed SF 88 and SF 93, or BUMED 6120/2, shall be forwarded to NAVOPMEDINST (Code 42) for appropriate action as soon as possible. Flight personnel placed in a LIMDU status strictly for geographical constraints (i.e., remain in or near proximity to a naval medical treatment facility for specialized treatment or follow-up

treatment) and who are otherwise physically qualified and aeronautically adapted, may request a waiver to remain in a flight status. Waivers of geographical LIMDU will be considered on a case-by-case basis and may be granted by BUPERS/CMC (ASM) upon written request with supporting medical documentation submitted via NAVOPMEDINST (Code 42) as stated in this section.

8.5.4.6 Temporary Medical Waivers. Temporary waivers for any medical disability may be granted by the local board of flight surgeons based on type aircraft, mission, and patient review, pending final approval/ disapproval by BUPERS/CMC (ASM).

8.5.5 Medical Service Groups. The physical standards for aviation personnel in each of the following medical service groups are outlined in MANMED. The medically related definitions and policies that shall, in general, be employed in this assignment of aviators to flight duties, are as follows.

8.5.5.1 Medical Service Group I. Aviators who meet the physical standards specified in MANMED shall be classified as Medical Service Group I. Those aviators may be assigned to flight duties of an unlimited or unrestricted nature.

8.5.5.2 Medical Service Group II. Those aviators who meet the physical standards outlined in MANMED, and those aviators of Service Group I who temporarily meet the physical standards of Service Group II. All aviators in Service Group II are restricted from shipboard aircrew duties (including V/STOL aircraft) exc in helicopters.

8.5.5.3 Medical Service Group III. Those aviators who meet the physical standards outlined in MANMED. Medical Service Group III aviators shall operate only aircraft equipped with dual controls and be accompanied on all flights by a pilot or copilot of Medical Service Group I or II, qualified in the model aircraft operated. A waiver is required to act as pilot in command of multipiloted aircraft.

8.5.6 Medical Service Group III Pilot in Command Requests. Waiver requests for Medical Service Group III pilot in command duties may be made to CHNAVPERS (PERS-43C) or CMC (Code ASM) via NAVOPMEDINST (Code 42) with justification. The requests must be accompanied by a typed SF 88 detailing an aviation physical examination performed within the previous 6 months. Pilot in command authorizations are issued on an individual basis and automatically expire upon billet reassignment or failure to maintain the physical qualifications under which the authorization was issued, whichever occurs first. The request shall contain date of designation as a naval aviator and background experience pertinent to the type of waiver b ing requested. UAV flightcrew shall follow provisic of this section. Specific flight physical requirements for UAV flightcrew can be found in MANMED.

CHAPTER 9

Miscellaneous

9.1 PARACHUTE JUMPS

9.1.1 General. Practice parachute jumps other than those required in the necessary and normal course of training or experimentation shall not be made unless expressly authorized by CNO. Authority to conduct parachute jumps required by training syllabuses or experimental projects is delegated to the commands assigned cognizance of the training or the experimental project.

9.1.2 Delayed Release Jumps. Delayed release parachute jumps shall not be made except as authorized by CNO. Any jump where no attempt is made to open the parachute immediately upon clearing the aircraft is considered a delayed release jump. Authority to conduct delayed release parachute jumps for test or evaluation is hereby delegated to commands assigned cognizance of test or experimental projects.

9.1.3 Jump Precautions. When authorized parachute jumps are to be made in the vicinity of bodies of water, personnel making the jumps shall wear life preservers. Adequate provisions for rescue of the jumper should be made beforehand.

9.1.4 Federal Aviation Regulations. FAR, Part 105, details information that must be provided the FAA and delineates strict communication requirements that must be complied with prior to and during parachute operations. Aircraft commanders shall be thoroughly familiar with the procedures prior to conducting parachute operations from naval aircraft.

9.1.5 Demonstrations. Paragraph 3.3 provides information on flight demonstrations.

9.2 SECURITY OF AIRCRAFT AWAY FROM BASE

9.2.1 General. When it is necessary to leave an aircraft on a field, airport, beach, body of water, or other area where military or naval personnel cannot take custody of the aircraft, the pilot in command shall take proper measures to ensure the safety of the aircraft and any classified equipment. When naval aircraft operating in company have landed away from home base, the senior naval aviator/naval flight officer shall be responsible for all of the aircraft as if a detached unit operation were being conducted under his/her cognizance.

9.2.2 Aircraft Mishap. In case of mishap to an aircraft, the pilot in command is responsible for its safe custody until the aircraft has been taken into custody by proper authority in accordance with the provisions of OPNAVINST 3750.6.

9.3 AIRCRAFT NOISE ABATEMENT

Aircraft noise creates a major public relations problem. All commands shall review their operating practices on a continuing basis with a view toward minimizing this nuisance to the public. CNO (N885F) should be informed of complaints that are considered serious by the commanding officer.

9.4 CLAIMS FOR PERSONAL PROPERTY IN MARITIME DISASTERS OF AIRCRAFT

a. During aircraft operations over open water, a forced landing is an ever present possibility. The probability of damage to the personal property aboard any aircraft exists. The condition is known to all personnel.

b. In view of the existing hazard to personal property in such operations, it is incumbent upon the personnel so engaged to use good judgment regarding the articles of personal property that are carried on such flights. They shall not needlessly jeopardize personal property that does not serve the personnel in the performance of the military missions of the aircraft in which they are embarked. When aircraft are in the execution of transfer flights from shore station to embarkation on ships and vice versa and in other similar cases, the transportation in the aircraft of articles of clothing not specifically required in the flight operation is considered to be justifiable.

c. The latest information concerning submission and payment of these claims is contained in the MILPERSMAN.

9.5 U.S. CUSTOMS, HEALTH, IMMIGRATION, AND AGRICULTURAL CLEARANCE

9.5.1 Naval Aircraft. Every effort should be made to arrive at the entry airport during those periods of time when customs/health/immigration/agriculture services are available. Official working hours within the U.S. are usually 0800 to 1700 local, Monday through Friday. Overtime charges accrue for services performed after official working hours.

9.5.2 Military Aircraft Arriving in the Continental U.S. From Overseas. Military departments that operate aircraft arriving in the CONUS from overseas shall provide timely advance notice of the aircraft's point of departure and expected arrival time at a U.S. airport of entry.

9.5.3 Discharging of Passengers/Cargo. The aircraft commander/mission commander shall not permit any cargo, baggage, or equipment to be removed from the aircraft without permission from customs officials. Passengers or crewmembers shall not depart from the landing site prior to release by the customs official. Removal of cargo and/or departure of personnel may be allowed should such be necessary for the safety or preservation of life and property. Violations of customs regulations could result in a fine for which the aircraft commander/mission commander may be personally responsible.

9.5.4 Foreign Military Aircraft. Commanding officers are advised to inform the pilot in command of visiting foreign military aircraft that the aforementioned formalities must be complied with before the aircraft and crew may be given clearance through customs. Additionally, commanding officers of all naval air activities whose facilities are used by foreign aircraft are directed to advise appropriate local government officials of the intended movements into or out of the United States by such aircraft.

9.5.5 Medical or Economic Insect Pests. When notified by competent authority of a potential hazard from medical or economic insect pests, such as disease carrying mosquitoes, Mediterranean fruit fly, Japanese beetle, etc., commanding officers shall in cooperation with the cognizant Governmental agency institute appropriate inspection and/or quarantine procedures for the control of such pests. Technical assistance may be obtained from the Naval Environmental Health Center, Environmental and Preventive Medicine Unit; or disease, vector, ecology, and control centers.

9.6 DISPERSAL OF PESTICIDES

Pesticides shall not be dispersed from naval aircraft in the continental U.S. or possessions without approval of the District Commandant, Commander Marine Corps Air Bases, Area Coordinator, or his/her delegated authority. In areas where there is danger of spray contamination to civilian property, all property owners must be contacted and their permission obtained. Where state statutory authority permits release by boards of county commissioners and/or other authorized agencies against claims and damages resulting from aerial dispersal of pesticides, such release may be obtained in lieu of individual property owner permission. The use of aircraft in the dispersal of a pesticide shall not be approved unless the application is recommended by a BUMED medical entomologist or a Naval Facilities Engineering Command (NAVFACENGCOM) applied biologist who is certified as a DOD pesticide applicator in Category 11, Aerial Application.

CHAPTER 10

Flight Records, Reports, and Forms

10.1 NAVAL FLIGHT RECORD SUBSYSTEM

The NAVFLIRS serves as a single, integrated source of flight data for the aviation maintenance and material management (AV-3M) system, the Marine Corps flight readiness evaluation data system (FREDS), the individual flight activity reporting system (IFARS), the Navy logistics information system (NALIS), and up-line reporting to all other existing systems.

10.2 AIRCRAFT INSPECTION AND ACCEPTANCE (AIA) RECORD, OPNAV 4790/141

The AIA Record, OPNAV 4790/141 (Figure 10-1), provides for:

a. Pilot acceptance of the aircraft in its present condition.

b. Identifies aircraft by bureau number (BuNo), type/model/series (T/M/S), and reporting custodian.

c. Certification of aircraft readiness for flight by maintenance personnel. This provides a record of fuel, oxygen, and expendable ordnance on board and the quantity of engine oil added since last flight.

d. The AIA record shall remain at the place of first takeoff. If the aircraft is away from home and qualified maintenance personnel are not available, the pilot in command shall sign the AIA record in the safe for flight certification block. The form will be maintained by the transient/host activity until safe completion of the flight.

10.2.1 Pilot in Command

a. The pilot in command shall review a record of aircraft discrepancies and corrective actions for the 10 previous flights.

b. The pilot in command shall sign the AIA record, assuming full responsibility for the safe operation of the aircraft and the safety of the other individuals aboard.

10.2.2 "Limitations/Remarks" Section. This section informs the pilot of uncorrected discrepancies or unique characteristics of this particular aircraft. Local instructions will always govern the specific content of this space.

10.3 NAVAL AIRCRAFT FLIGHT RECORD, OPNAV 3710/4

The NAVFLIRS, OPNAV 3710/4 (Figure 10-2), provides a standardized Department of the Navy flight activity data collection system. NAVFLIRS is the single-source document for recording flight data and is applicable in specific areas to aircraft simulators. The form shall be prepared for each attempt at flight of naval aircraft or training evolution for simulators. The authorized document formats are the preprinted multicopy form, S/N 0107-LF-037-1020, and the computer-generated form from the CANDE or Naval Aviation Logistics Command Management Information System (NALCOMIS) Organizational Maintenance Activity (OMA) program.

a. The naval aircraft flight record is a single-source document that collects flight activity data in support of the maintenance data system (MDS), FREDS, IFARS, and NALIS. Types of data collected are as follows:

(1) A statistical description of the flight pertaining to the aircraft and crewmembers

(2) A record of all logistic actions performed during the flight

(3) A record of weapons proficiency

AIRCRAFT INSPECTION AND ACCEPTANCE RECORD

OPNAVINST 4790.2E

1. A/C BUNSER NO.	2. T/M/S	3. RPT. CUST.	4. OXY	5. FUEL GRADE	5. FUEL QTY	6. OIL GRADE	6. OIL 1	6. OIL 2	6. OIL 3	6. OIL 4	7. DATE

8. ORDNANCE / SPECIAL EQUIPMENT / LIMITATIONS / REMARKS:

9. I have personally inspected this aircraft IAW the applicable MRC. Any discrepancies noted have been entered on OPNAV 4790/38. STS

SIGNATURE OF PLANE CAPTAIN — RANK/RATE

10. Certification of safe for flight condition by the MO, MMCO, or MCO. Other persons may sign this form if authorized.

SIGNATURE — RANK/RATE

11. I have reviewed the discrepancy reports of the 10 previous flights, insured proper filing of weight and balance data, and accept this aircraft for flight.

SIGNATURE OF PILOT IN COMMAND — RANK

OPNAVINST 4790/141 (12-89) S/N 0107-LF-008-4100

Figure 10-1. Aircraft Inspection and Acceptance Record (OPNAV 4790/141)

NO.

NAVAL AIRCRAFT FLIGHT RECORD

AIRCRAFT DATA (RECORD TYPE 7B)

PAGE ____ OF ____

AIRCREW DATA (RECORD TYPE 7C; IF EXC CODE = G, L OR R; RECORD TYPE = 7D)

LOGISTICS DATA (DEPART — RECORD TYPE 7E; ARRIVE — RECORD TYPE 7F)

WEAPONS PROFICIENCY DATA (RECORD TYPE 7G)

OPNAV 3710/4 (Rev 2-84) S/N 0107-LF-027-1020

Figure 10-2. Naval Aircraft Flight Record (OPNAV 3710/4)

(4) A record of training areas utilized and other miscellaneous data.

b. The naval aircraft flight record consists of an original and two color-coded copies of no carbon required (NCR) paper. All copies contain identical information. Copy one is used for data entry and then is filed in operations. Copy two will be in the suspense file copy until copy one is returned to operations. copy three is retained in the maintenance department.

Note

For activities using the CANDE or NALCOMIS OMA program, personnel shall print two hard copies of the generated NAVFLIRS form for local activity use. The NAVFLIRS data diskette is forwarded to the supporting DSF for processing. Hard copy one is filed in operations for retention in the master flight files. Hard copy two is retained in the maintenance department for 3 months to facilitate local data-base correction.

c. After all applicable entries to maintenance/operation records and logs are made, copy one shall be retained for the master flight files discussed in paragraph 10.4. Copy two, after processing, will be retained until monthly reports are verified. Copy three shall be retained by maintenance control for 3 months to facilitate local data-base correction.

10.3.1 Documentation of the Naval Aircraft Flight Record

a. The shaded portions of the naval aircraft flight record are mandatory fields and shall be filled out for every attempt at flight/simulator training where applicable. Although not shaded on the form, blocks 11 and 12 of the aircrew data section and block 11 of the logistics data section are mandatory fields.

b. The pilot or other designated crewmember shall maintain an accurate record of the flight. At the completion of the flight/simulator event, the pilot or mission commander shall sign the naval aircraft flight record, certifying it complete and correct. When reporting simulator usage, forward the naval aircraft flight record to the operations department of the crewmember's parent command.

c. In instances where the aircraft and crewmember are assigned to different activities and supported by different DSFs, the crewmember shall provide his/her parent activity with a duplicate copy of the naval aircraft flight record for submission to the supporting DSF (i.e., when the aircraft is assigned to a squadron at NAS Oceana and the crewmember is attached to a squadron at NAS Alameda, the crewmember shall obtain a duplicate copy of the naval aircraft flight record and deliver the flight record to his/her squadron at NAS Alameda for submission). That procedure is necessary to update his/her monthly individual flight activity report (NAVFLIRS-3) and fiscal year-to-date (FYTD) summary. Submission of the duplicate naval aircraft flight record (with same document number) at the DSF that is not the same DSF supporting the aircraft reporting custodian shall be batched with a 4 in the AWAY FROM HOME block on the accompanying document control form (DCF). The DCF will be completed and submitted in accordance with OPNAVINST 4790.2. However, aviators from different squadrons at NAS Oceana functioning as crewmembers in the same aircraft need not submit duplicate naval aircraft flight records; only the aircraft reporting custodian will submit the record. Since both squadrons are supported by the same DSF, the daily audit reports for both squadrons will display this flight with crewmember information. For submission of flight records out of the reporting period, an away code of Z shall be entered on the DCF to indicate late data and shall be completed and submitted in accordance with OPNAVINST 4790.2.

d. The operations department is responsible for verifying the accuracy and completeness of naval aircraft flight records submitted for data processing, ensuring submission of aircrew gain and loss reports, verifying the daily audit reports, and coordinating the correction of errors with the maintenance analyst.

e. The maintenance analyst is the NAVFLIRS coordinator and is responsible for accomplishing the daily submission of completed naval aircraft flight records for processing, distributing daily audit and monthly reports to the operations and maintenance departments, and coordination of error corrections with operations and maintenance control.

Note

For Marine Corps activities, the operations NCOIC will perform those functions.

f. One naval aircraft flight record may be used for two or more flights under the following conditions:

(1) The total mission requirement (TMR) codes do not exceed three and the pilot in command remains the same. TMRs are contained in Appendix D.

(2) No maintenance or servicing is performed at intermediate stops other than the addition of fuel, oil, or oxygen.

(3) Ops code (i.e., shipboard or shore operations) remains the same.

g. The upper left corner of the naval aircraft flight record contains a preprinted alphanumeric number that uniquely identifies each document and is required for computer processing. A naval aircraft flight record with this number obscured will be rejected by the DSF.

Note

For activities using the CANDE or NALCOMIS OMA program, the NAVFLIRS document number will be automatically generated and assigned to the individual flight record.

h. The "PAGE___OF___" will be used when an additional naval aircraft flight record is required to supplement the documentation of multiple-entry data fields cited above. The maximum allowable number of supplemental pages is five. The document numbers of the supplemental pages shall be obliterated and the document number assigned to page one shall be handscribed legibly on each supplemental page.

i. Supplemental naval aircraft flight records may be attached to page one to provide additional space to document the following data elements:

(1) Crewmember names

(2) Additional flight legs and their associated logistic records

(3) Weapons proficiency.

j. It is the responsibility of the aircraft or simulator reporting custodian to ensure that naval aircraft flight records are available.

k. Exception codes (Appendix F) are provided for entries on the naval aircraft flight record that require processing for other than a routine flight such as the following:

(1) Gaining or losing crewmembers to the squadron data base.

(2) Correcting, deleting, or revising previously submitted data.

(3) Documenting CVW staff member flight time.

(4) Documenting simulator time. Simulator tim only refers to approved simulators capable c logging flight time.

(5) Documenting canceled flights.

(6) Documenting flights when the crewmember and the aircraft are assigned to different organizations.

Note

- Aircrew shall be placed on an appropriate organization's individual master roster (IMR). Organizations shall submit a RECTYP 7D Gain (exception code G) when aircrew report to a new organization and a RECTYP 7D Loss (exception code L) when aircrew depart an organization (refer to paragraph 10.3.6). Aircrew shall be assigned to only one IMR per DSF, or reporting errors will result.

- Only approved DIFOPS CVW staff billets shall use the S (staff) exception code. All other aircrew, including other DIFOPS-assigned staff officers, shall use the exception code E when flying in aircraft assigned to an organization (RECTYP 7B block 21 ORG code) different than one to which they are assigned (ORG code for the IMR to which the aircrew is assigned). DIFOPS-assigned station pilots should be placed on the station's IMR, requiring no exception codes when flying station aircraft.

l. The use of the code tables provided in Appendixes D, F, G, and I is mandatory. Routine codes required for form completion are printed on the back of copy one. Abbreviated TMR codes are printed on the back of copy three. Training codes are available in the type commander joint training and readiness (T&R) manual (CNAP/CNAL 3500.67/63 series), Marine Corps T&R manuals (MCO 3500 series), or other governing instructions as appropriate. Refer to paragraph 10.3.3. Weapon proficiency codes are located in Appendix H. Commanding officers shall ensure that crewmembers and maintenance and operation personnel who enter or manipulate data derived from this form are familiar with the proper use of appropriate codes. It should be noted that although the NAVFLIRS form allows for only three trainin codes, CANDE/NALCOMIS OMA will provide for up to 10 training codes on one automated NAVFLIR.

m. The documentation for a routine flight consists of information from the following sections on the naval aircraft flight record:

(1) Aircraft data — RECTYP 7B.

(2) Aircrew data — RECTYP 7C.

(3) Logistics depart data — RECTYP 7E.

(4) Logistics arrive data — RECTYP 7F.

Note

Logistics arrive data, RECTYP 7F, is not completed in the submission of a cancellation. Weapon proficiency data, RECTYP 7G, is not mandatory for every flight but should be completed as applicable to document time spent in restricted air space, miscellaneous data, etc. Refer to paragraphs 10.3.2 through 10.3.5 for information required to complete the naval aircraft flight record for a routine flight. Refer to paragraph 10.3.6 for information required for personnel data, RECTYP 7D transactions.

10.3.1.1 Logging Simulator Time. Simulator events conducted in Navy simulators (or nonNavy simulators if used for the purpose of logging Navy/Marine aircrew flight time) shall be documented on a naval aircraft flight record and processed by the user's squadron/activity. The following data fields, as described in paragraphs 10.3.2 through 10.3.5, are required:

a. AIRCRAFT DATA SECTION

(1) BUREAU/SERIAL NO. (BUNO/SER) — If assigned to device.

(2) TYPE EQUIPMENT CODE (TEC) — See Appendix K.

(3) ORGANIZATION CODE (ORG) — Use code "ZEZ" for simulators.

(4) MISSION 1 (MSN1).

(5) HOURS 1 (HRS1).

(6) SUPPORT CODE (SUPTCD) — Use appropriate code for user's activity. See Appendix I.

b. AIRCREW DATA SECTION

(1) EXCEPTION CODE — Enter the "T" exception code for simulators.

(2) NAME (FSTINT and LSTINT).

(3) SOCIAL SECURITY NUMBER (SSN).

(4) SPECIAL QUALIFICATIONS (SPQUAL).

(5) SERVICE CODE (SVC).

(6) FLIGHT TIME (FPT, CPT, or SCT).

(7) SIMULATED INSTRUMENT TIME (SIM).

(8) LANDINGS (TLNG1/2/3/4 AND NLNDG1/2/3/4) — Optional when documenting simulator flights.

(9) APPROACHES (TAPP1/2/3/4 and NAPP1/2/3/4) — Simulated only.

(10) TRAINING CODES (TRACD1/2/3) — In accordance with T&R manual.

c. LOGISTICS DATA SECTION

(1) TIME ZONE (TMZONE).

(2) TIME DEPART/ARRIVE (TIMDEP-TIMARR) — Enter the start and stop time of the event.

(3) DATE DEPART/ARRIVE (DTEDEP-DTEARR) — Enter the four-character Julian date (YYDD) for departure and arrival date of the event.

(4) ICAO DEPART/ARRIVE (ICAODP-ICAOAR) — Enter the appropriate ICAO codes (depart and arrive) for the simulator location.

d. REMARKS — If simulator is nonNavy, enter type aircraft simulated.

e. SIGNATURE — Of crewmember receiving training.

Note

- Logging night time or aircraft commander time is not authorized when reporting simulator time.
- Instructor time may be reported.

10.3.1.2 Approved Simulators. Approved simulators for logging pilot and special crew time are listed in Appendix K and are based on the demonstrated ability of the devices to provide mission and weapons system

training. Additionally, it is recognized that other military services, industry, and foreign governments operate very capable military aircraft simulators that are not listed here. Generic type equipment codes, listed in Appendix K, have been assigned to enable Navy aircrews to credit time gained in those devices using the naval aircraft flight record. However, the person signing the flight record shall ensure that the following criteria are met:

a. The device reasonably simulates a particular military aircraft, including cockpit layout, instrumentation, performance, and handling. The model being simulated shall be recorded in the remarks block.

b. Instrumentation and displays sufficient to conduct the desired military training mission (e.g., instrument approach, air intercept, weapon delivery, etc.) are provided, and are appropriate to the type of flight time to be logged (pilot or special crew time).

c. The device cockpit is isolated from outside distraction.

10.3.2 Aircraft Data Section. Complete the data blocks in aircraft data section, RECTYP 7B (Figure 10-3):

a. SIDE NO. Enter the side number of the aircraft. Those data will not be processed at the DSF.

b. Block 10. EXCEPTION CODE (EXCD): Enter the appropriate exception code if required. Exception code X documents the cancellation of a flight and is used only in the aircraft data section (see Appendix F).

c. Block 11. BUREAU/SERIAL NO. (BUNO/SER): Enter the bureau number of the aircraft or the serial number of the simulator. Right justify if less than six characters.

d. Block 17. TYPE EQUIPMENT CODE (TEC): Enter the four-character AV-3M type equipment code assigned to the aircraft or simulator. Refer to NAMSO report 4790.A7210-01.

e. Block 21. ORGANIZATION CODE (ORG): Enter the three-character AV-3M organization code for the aircraft reporting custodian or "ZEZ" fc simulators. Refer to NAMSO report 4790.A7065-0.

f. Block 24. MISSION 1 (MSN1): Enter the three-character TMR code from Appendix D that most accurately describes the primary mission for the flight/simulator event or its reason for being canceled or aborted. Canceled or aborted flights must use a general purpose code (GPC) of N (maintenance) or O (operations) in the second position, as applicable.

Note

A canceled flight is one for which no flight time was obtained.

g. Block 27. HOURS 1 (HRS1): Enter the hours and tenths dedicated to performance of MSN1. The block will be blank when documenting a cancellation.

h. Block 30. MISSION 2 (MSN2): Enter the mission code from Appendix D that most accurately describes the secondary mission if applicable. The mission may not necessarily be assigned at takeoff.

Note

An aborted flight is one for which flight time is obtained but requires termination of the flight. If that occurs, MSN1 or MSN2 will indicate the mission that was in progress when the abort decision was made; and MSN2 or MSN3 (as applicable) will indicate the reason for the abort.

i. Block 33. HOURS 2 (HRS2): Enter the hours and tenths dedicated to performance of MSN2.

j. Block 36. MISSION 3 (MSN3): Enter the mission code from Appendix D that most accurately describes the tertiary mission if applicable. The mission may not necessarily be assigned at takeoff.

k. Block 39. HOURS 3 (HRS3): Enter the hours and tenths dedicated to performance of MSN3.

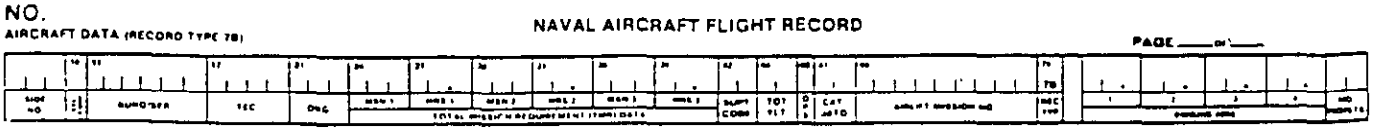


Figure 10-3. Aircraft Data Section

Note

The sum of the hours in HRS1, HRS2, and HRS3 represents total aircraft flight time.

l. Block 42. SUPPORT CODE (SUPTCD): Enter the two-character support code from Appendix I that identifies the claimancy providing funding for mission accomplishment. The code will be used by CNO (N880) to monitor special-interest missions, operations, or exercises. For crewmembers within the personnel exchange program (PEP), insert "NS" in the field.

m. Block 44. TOTAL FLIGHTS (TOTFLT): Enter the total number of flights.

n. Block 46. OPERATIONS (OPS): Use one of the following codes, whichever is the most applicable to the operational scenario:

(1) A — Ship Operations (Nondeployed) — For flights primarily involving carrier/ship operations ashore for a nondeployed unit.

(2) 1 — Land Operations (Nondeployed) — For flights primarily involving operations ashore for a nondeployed unit.

(3) B — Ship Operations (Deployed) — For flights primarily involving carrier/ship operations while unit is deployed.

(4) 2 — Land Operations (Deployed) — For flights primarily involving operations ashore for a deployed unit.

(5) C — Fleet Replacement Squadron Overhead (Ship) — For FRS flights involving carrier/ship operations primarily not for the purpose of training students.

(6) 3 — Fleet Replacement Squadron Overhead (Land) — For FRS flights ashore primarily not for the purpose of training students.

Note

For the purpose of this instruction, deployed time shall be defined as all time accumulated when units are under operational control of Commander Sixth Fleet (COMSIXTHFLT), Commander Seventh Fleet (COMSEVENTHFLT), and/or Commander Task Force (CTF) 67, 84, 12, or 72 only.

o. Block 47. CATAPULT LAUNCH/JET ASSISTED TAKEOFF (CJ):

(1) Catapult Launch: Enter the number of catapult launches (ship-based or shore-based).

(2) JATO Launch: Enter the total number of JATO launches executed during the flight.

p. Block 49. AIRLIFT MISSION NO. (MISNUM): If applicable, enter the nine-character flight mission number from the flight advisory or number assigned by the scheduling authority. Refer to OPNAVINST 4631.2. MISNUMs may be used by any activity if structured as follows:

(1) Positions 1 to 3 — ORG.

(2) Positions 4 to 7 — Julian date.

(3) Positions 8 and 9 — 01-99 (sequentially assigned).

Note

MISNUM must be filled in to ensure proper organization of data on the monthly aircraft logistics data report (NAVFLIRS-4). If no cargo or passengers are transported during the accounting period, the NAVFLIRS-4 will only indicate flight hours by leg number for each BuNo.

q. ENGINE HRS: Enter the hours and tenths for each engine if different than the total flight hours. The data are for maintenance control and are not processed at the DSF.

r. NUMBER OF HOISTS: Enter the total number of hoists accomplished during the flight. The data are for maintenance control and are not processed at the DSF.

10.3.3 Aircrew Data Section. The aircrew data section is designed for recording necessary information pertaining only to those individuals functioning as crewmembers during the flight. Complete the data blocks in the aircrew data section, RECTYP 7C (Figure 10-4).

a. Block 10. EXCEPTION CODE (EXCD): Enter the appropriate exception code if required. Exception code E, S, or T is permitted in this block (see Appendix F).

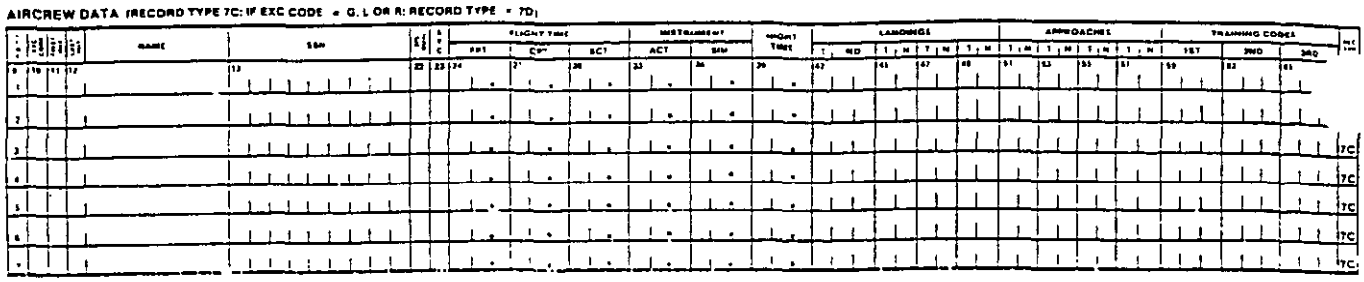


Figure 10-4. Aircrew Data Section

b. Block 11. FIRST INITIAL (FSTINT): Enter the crewmember's first initial.

c. Block 12. LAST INITIAL (LSTINT): Enter the first letter of the last name in the space provided. Space for the individual's name is provided as a convenience; only the initials shall be entered (keypunched) as part of the flight data by the DSF.

d. Block 13. SOCIAL SECURITY NUMBER (SSN): Enter the social security number for each crewmember (allow no dashes).

e. Block 22. SPECIAL QUALIFICATION (SPQUAL): Enter the special qualification code for each crewmember (see Appendix F).

Note

SPQUAL identifies the crewmember function during the flight.

f. Block 23. SERVICE CODE (SVC): Enter the service code for each crewmember (see Appendix F).

g. Block 24. FIRST PILOT TIME (FPT): Enter the hours and tenths logged as first pilot.

Note

First pilot, copilot, and special crew times are defined in Chapter 1.

h. Block 27. COPILOT TIME (CPT): Enter the hours and tenths logged as copilot.

i. Block 30. SPECIAL CREW TIME (SCT): Enter the hours and tenths logged as special crew.

Note

The sum of FPT hours for entire document must equal the sum of HRS1, HRS2, and HRS3. The sum of hours in FPT, CPT, and SCT for each additional crewmember may equal but must not exceed the sum of HRS1, HRS2, and HRS3.

j. Block 33. ACTUAL INSTRUMENT TIME (ACT): Enter the hours and tenths logged as actual in accordance with Chapter 1.

k. Block 36. SIMULATED INSTRUMENT TIME (SIM): Enter the hours and tenths logged as simulated in accordance with Chapter 1. If an actual or simulated approach is logged, actual or simulated instrument time must be logged.

l. Block 39. NIGHT TIME (NIGHT): Enter hours and tenths logged as night time in accorda.. with Chapter 1.

m. Blocks 42 to 49. LANDINGS (TLNDG1/2/3/4 and NLNDG1/2/3/4): Enter the type and number of landings accomplished. If a type of landing was accomplished more than nine times, log the type in block 42 and the number in blocks 43 and 44 (see Appendix F). Only the pilot or student pilot actually controlling the aircraft during the landing and documenting FPT shall log and be credited with the landing. Landings are not required when documenting simulator flights.

Note

NFOs and student NFOs shall report day and night carrier landings only. To indicate those landings, Y will be entered in block 42 for day landings and Z for night landings and the number in blocks 43 and 44. If both day and night landings are recorded on the same flight, utilize blocks 45 and 46 for night landings.

n. Blocks 51 to 57. APPROACHES (TAPP1/2/3/4 and NAPP1/2/3/4): Enter the type and number of approaches performed beginning with block 51 (see Appendix F). If the number of a particular approach credited to an individual exceeds nine, record the overflow in the next type and number set.

Note

- Only the pilot exercising principal active control during the approach may be credited with that approach. However, when flying in actual instrument conditions, the instructor of a student pilot (a designated aviator is not considered a student pilot) shall also receive credit for an actual instrument approach. Actual and simulated instrument conditions are defined in Chapter 1.

- Only that portion of the approach executed to a missed approach or landing shall be logged as an approach (i.e., a tacan approach to a PAR/ILS/ALS final would be logged only as a precision approach).

- Precision approaches are as follows:

(1) ALS (includes SPN-42, SPN-46, etc., mode I or IA).

(2) ILS (includes SPN-42, SPN-46, etc., mode II).

(3) PAR (includes SPN-42, SPN-46, etc., mode III).

- Nonprecision approaches are as follows:

(1) VOR-VHF OMNI range

(2) VOR/DME

(3) Tacan-UHF

(4) NDB (ADF)

(5) L/MF range

(6) Localizer

(7) ASR — Airport surveillance radar (includes CCA when no glidepath information is provided).

- Helicopters conducting coupled approaches after official sunset or during actual instrument conditions in automatic or alternate modes shall use a 3. Simulated instrument conditions in automatic or alternate modes shall use a C. Coupled approaches will not be used to fulfill approach requirements for instrument rating purposes.

o. Blocks 59 to 65. TRAINING CODES (TRACD1/2/3): Enter the appropriate training codes in accordance with local instructions.

Note

- Training codes enable recording of individual aviation training accomplished on each flight or simulator event. These codes are standardized and represent flight training from entry level to fully combat qualified, including syllabus maintenance. For Navy tactical and ASW aviators, training codes are assigned by the TYCOM joint training and readiness instruction, Squadron Training and Readiness Manuals (CNAP/CNAL 3500.67/63 series), and are used to monitor the achievement of readiness qualifications in aircraft or simulators. The appropriate alphanumeric code shall be entered if the recorded flight or simulator event attains or renews a qualification listed in the appropriate T&R manual. If the flight/event does not attain/renew a qualification, T&R manual codes shall not be recorded. Navy squadrons may specify and enter additional alphanumeric codes to capture training or cyclic events as long as they do not conflict with codes established by the appropriate T&R manual.

- Marine squadrons use training codes as daily input to each squadron aviation training data base to update individual and activity flight training progress, to aid in scheduling daily flight training, and to forecast monthly, quarterly, and annual flight time requirements. The Marine Corps T&R manual contains the appropriate syllabus training codes for each crewmember position by model aircraft. Marine entries must be numeric.

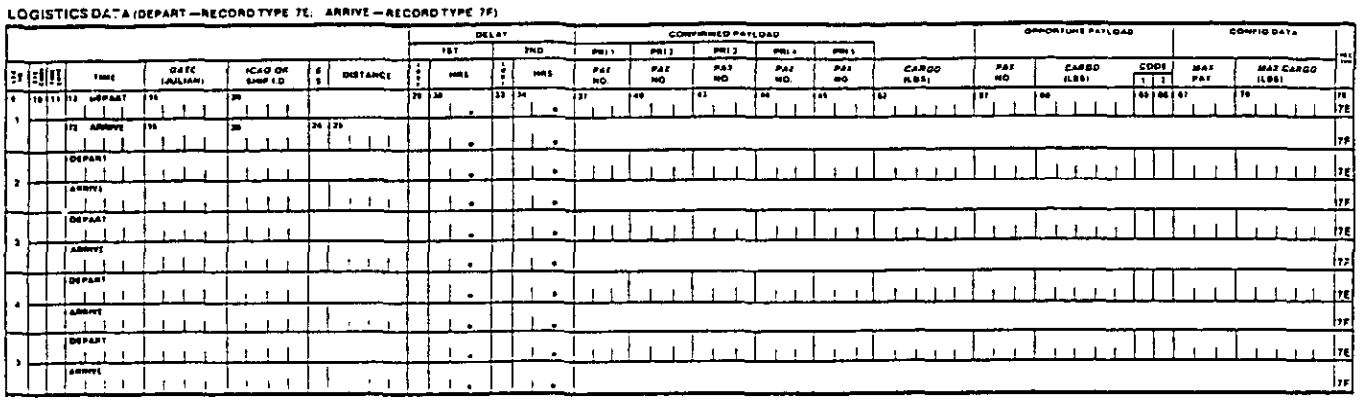


Figure 10-5. Logistics Data Section

Note

The CANDE and NALCOMIS OMA programs allow for the entry of up to 10 training codes for the automated NAVFLIR. The CANDE/NALCOMIS OMA-produced, hard-copy facsimile looks similar to the current NAVFLIR OPNAV 3710/4 form except that it will display the additional training code entries at the bottom of the printed facsimile.

10.3.4 Logistics Data Section

a. Logistics Data (blocks 29 to 70) shall be recorded for every flight that involves the movement of passengers/cargo, scheduled or unscheduled, in any type aircraft. Blocks 12 to 20 are mandatory entries for all flights.

b. Complete the data blocks in the logistics data sections, RECTYP 7E and 7F (Figure 10-5):

(1) Block 10. EXCEPTION CODE (EXCD): No exception codes are permitted for the initial entry. This block is used for corrections and deletions only.

(2) Block 11. TIME ZONE (TMZONE): Enter the time zone on page one, leg one only. The same time zone shall be used for all legs (see Appendix G). The time zone remains unchanged, even during daylight savings time.

(3) Block 12. TIME DEPART/ARRIVE (TIMDEP-TIMARR): Enter the departure and arrival times, consistent with the time zone in block 11.

(4) Block 16. DATE DEPART/ARRIVE (DTEDEP-DTEARR): Enter the four-character Julian date (YYDD) for departure and arrival.

Note

Record flight information for flights overlapping into a new day under month and date the flight originated.

(5) Block 20. ICAO DEPART/ARRIVE (ICAODP-ICAOAR): Enter the four-character ICAO code for departure and arrival. Obtain land-based ICAO codes from the current FLIP for the geographical area. For ship ID codes, use a four-character alphanumeric code identifying the ship (e.g., D963 for DD 963 (USS Spruance), CV68 for CV 68 (USS Nimitz), or F084 for FF 1084 (USS McCandless)). When no ICAO code is available, enter ZZZZ.

(6) Block 24. SYSTEM STATUS (SS): Enter the appropriate SS code for the readiness condition of the aircraft upon landing (see Appendix G).

(7) Block 25. DISTANCE (DIST): Enter the distance, in nautical miles, flown on each leg. It may be left blank if the flight begins and ends at the same location.

(8) Blocks 29 and 33. 1ST/2ND DELAY CODES (DPDCD1/2): Not used.

(9) Blocks 30 and 34. 1ST/2ND DELAY HOURS (DPDHR1/2): Not used.

(10) Blocks 37, 40, 43, 46, and 49. CONFIRMED PAYLOAD, PRIORITY 1-5, PASSENGER NUMBER (PRI1/2/3/4/5): Enter the number of passengers in each category for each leg of the flight (if none, leave blank) (see Appendix G).

(11) Block 52. CONFIRMED PAYLOAD CARGO IN POUNDS (CPCRGO): Enter the

pounds of confirmed cargo for each leg of the flight (if none, leave blank).

(12) Block 57. OPPORTUNE PASSENGER NUMBER (OPPAX): Enter the number of unscheduled passengers (including space A) for each leg of the flight (if none, leave blank).

(13) Block 60. OPPORTUNE CARGO (OPCRGO): Enter the pounds of unscheduled cargo for each leg of the flight (if none, leave blank).

(14) Blocks 65 and 66. OPPORTUNE CARGO CODES 1/2 (OPCCD1/2): Enter the first and second most significant types of opportune cargo for each leg of the flight (if none, leave blank) (see Appendix G).

(15) Block 67. CONFIGURATION DATA, MAXIMUM PASSENGERS (MAXPAX): Enter the maximum number of seats available for each leg of the flight (if none, leave blank).

(16) Block 70. CONFIGURATION DATA, MAXIMUM CARGO (MAXCGO): Enter the maximum cargo-carrying capability in pounds for each leg of the flight (if none, leave blank).

10.3.5 Weapons Proficiency Data Section

a. The weapons proficiency data section collects training area, weapons delivery, and miscellaneous data. The training area data fields allow for documenting the usage of two areas per line. The training area data section captures the use of targets, restricted areas, warning areas, alert areas, military operating areas (MOAs), ATCAA and MTRs as outlined in AP1A/AP1B area planning document. The weapons delivery data fields allow for documenting three types of delivery per line; each delivery is differentiated by the type ordnance delivered. The miscellaneous data fields allow for two entries per line, enabling the user to document miscellaneous training and utilization that is of importance to the individual or the activity. Training area data entries are mandatory when special-use airspace (restricted areas, controlled firing areas, warning areas, alert areas, and MOAs) and areas for special use (ATCAAs) or military training routes have been scheduled. The cancellation of special-use airspace must be documented using the appropriate miscellaneous data codes (see Appendix H). The number of flight hours that were to be utilized within that airspace will be entered in miscellaneous data 1/2 block. Naval aviators and NFOs shall log image intensification device (night vision goggle) usage. Image intensification device usage shall be logged in the miscellaneous codes/data blocks.

b. Complete the data blocks in the weapons proficiency data section, RECTYP 7G, as applicable (Figure 10-6):

(1) Block 10. EXCEPTION CODE (EXCD): No exception codes are permitted for the initial entry. This block is used for corrections and deletions only.

(2) Block 11. LINE NUMBER (LINENR): Enter the line number from the aircrew data section corresponding to the crewmember whose activity is being described in the weapons proficiency data section. If more than two crewmembers are involved, attach additional naval aircraft flight records to page one, as described in paragraph 10.3.1, with only this section complete. All crewmembers documenting weapons proficiency must be entered on page one.

(3) Blocks 12 and 21. TRAINING AREA 1/2 (TNGAR1/2): Enter applicable training area codes. Training area codes may range from two to seven characters. The code must be entered from left to right and position one must be alpha when filled in. Complete MOA designations may exceed seven characters/digits. In such cases, enter the first seven letters of the MOA name. If a subdivision is involved (i.e., north, south, east, or west; a, b, c, etc.; high or low) then enter those in the last spaces, cutting short the MOA name if necessary. For example, Pecos east high MOA would be entered: PECOSEH; Randolph 2a would be entered as RANDO2A. Regional airspace coordinators should publish standard training area codes/abbreviations for use in the NAVFLIRS weapons proficiency data section.

(4) Blocks 19 and 28. TRAINING AREA HOURS 1/2 (TNGHR1/2): Enter the time, in hours and tenths, dedicated to TNGAR1/2. Their sum must not exceed total flight time.

(5) Blocks 30, 41, and 52. ORDNANCE 1/2/3 (ORD1/2/3): Enter the ordnance code (see Appendix H). For ordnance codes not listed in Appendix H, refer to NAVAIR 11-1-116B (Navy Ammunition Logistic Codes).

(6) Blocks 34, 45, and 56. DELIVERY 1/2/3 (DEL1/2/3): Enter the delivery data code. Position one must be alpha (see Appendix H).

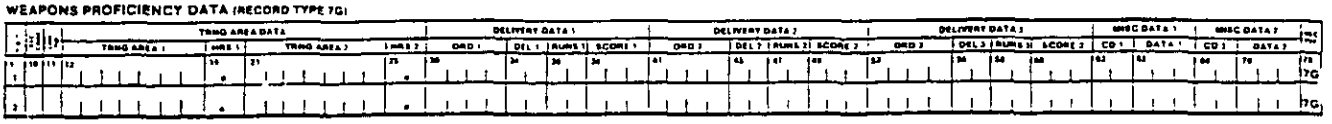


Figure 10-6. Weapons Proficiency Data Section

(7) Blocks 36, 47, and 58. RUNS 1/2/3 (RUNS1/2/3): Enter the total number of runs associated with the respective delivery code.

(8) Blocks 38, 49, and 60. SCORE 1/2/3 (SCORE1/2/3): Enter the score awarded if applicable for DEL1/2/3 as follows: The aviator will manually calculate the score by dividing the number of runs into the sum of the target-miss distance in feet. A score in excess of 999 feet can be entered using a K in the first position (i.e., K11 equals 1,100 feet, K26 equals 2,600 feet).

(9) Blocks 63 and 68. MISCELLANEOUS DATA CODE 1/2 (CD1/2): Enter the miscellaneous data code if applicable (see Appendix H).

(10) Blocks 65 and 70. MISCELLANEOUS DATA 1/2 (DATA1/2): Enter the number of occurrences or time in hours and tenths (from right to left) for the data described in CD1/2.

Note

The data of miscellaneous codes with a first position of N, R, or 1 will be treated as hours and tenths with an implied decimal between positions two and three. Data for all other miscellaneous codes will be treated as whole numbers.

10.3.6 Personnel Data

a. Personnel data, RECTYPE 7D, is used to update the individual master roster (IMR) (NAVFLIRS-00). This RECTYP is submitted whenever a crewmember is gained, detached, or a revision to the IMR is required. RECTYP 7D is composed of data fields from the aircraft, aircrew, logistics, and name/grade/local use sections. Figure 10-7 displays the RECTYP 7D data fields. RECTYP 7D entries shall be retained in a separate file until the data submitted can be verified on the IMR and then disposed of at the activity's discretion.

(1) AIRCRAFT DATA SECTION, Block 17, ASSIGNED SYLLABUS (TEC): Mandatory entry for Marine Corps only. Enter the four-character numeric code identifying the syllabus assigned to the crewmember (see Appendix J).

(2) AIRCRAFT DATA SECTION, Block 21, ORGANIZATION CODE (ORG): Enter the three-character AV-3M organization code the crewmember is assigned. Refer to NAMSO report 4790.A7065-01.

(3) AIRCREW DATA SECTION, Block 10, EXCEPTION CODE (EXCD): Enter G, L, or R, as appropriate (see Appendix F).

(4) AIRCREW DATA SECTION, Block 11, FIRST INITIAL (FSTINT): Enter the first initial of the crewmember requiring the transaction.

(5) AIRCREW DATA SECTION, Block 12, LAST INITIAL (LSTINT): Enter the first letter of the last name.

Note

The name element following the last initial is not entered (keypunched) and should be left blank.

(6) AIRCREW DATA SECTION, Block 13, SOCIAL SECURITY NUMBER (SSN): Enter the social security number of the crewmember; allow no dashes.

(7) AIRCREW DATA SECTION, Block 23, SERVICE CODE (SVC): Enter the service code (see Appendix F).

(8) LOGISTICS DATA SECTION, Block 16, JULIAN DATE (DATE): Enter the Julian date of the transaction.

(9) LOGISTICS DATA SECTION, Block 29, AIRCREW STATUS CODE (ASC): This field is mandatory for the Marine Corps, optional for the Navy. Enter the appropriate ASC (see Appendix J).

(10) LOGISTICS DATA SECTION, Block 3? SYLLABUS STATUS CODE (SSC): This field

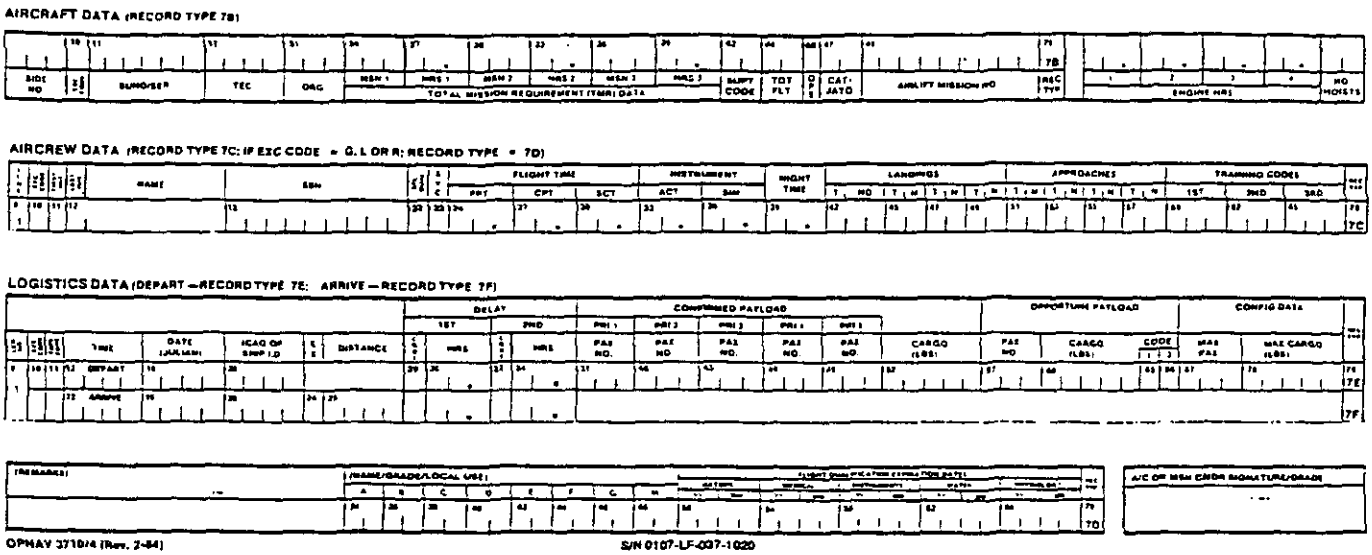


Figure 10-7. Personnel Data Section

mandatory for the Marine Corps, optional for the Navy. Enter the appropriate SSC (see Appendix J).

(11) PERSONNEL DATA SECTION, Block 34, NAME/GRADE/LOCAL USE A-G: Enter the last name of the crewmember. If the last name exceeds 14 characters, print only the first 14.

(12) PERSONNEL DATA SECTION, Block 48, NAME/GRADE/LOCAL USE H: Enter the paygrade of the crewmember, omitting dashes (i.e., O3, W2, E6, etc.).

(13) PERSONNEL DATA SECTION, Block 50, FLIGHT QUALIFICATION EXPIRATION DATES, NATOPS, MEDICAL, INSTRUMENTS, WATER, PHYSIOLOGY (YYMM): Enter the last two characters of the calendar year and the month when crewmember qualifications EXPIRE (must be four characters).

Note

The aircraft or mission commander signature and grade attests to the validity and completeness of the naval aircraft flight record. No signature is required for the submission of RECTYP 7D transactions.

b. Privacy Act Statement for naval aircraft flight record:

(1) Title 5 U.S.C. 301, Departmental Regulations, and Executive Order 9397 authorize collection of this information.

(2) The primary use of this information is to consolidate the collection of flight data into a single, locally controlled collection and correction system and to implement a standard data collection source document (the naval aircraft flight record) throughout the Navy and Marine Corps. It will establish a single central data base containing all naval flight data.

(3) This information may be provided to committees authorized by Congress to investigate certain phases of the naval aviation program. The "blanket routine uses" that appear at the beginning of the Department of the Navy's compilation also apply to this system.

(4) Disclosure of this information is voluntary. However, failure to disclose this information could result in the flight data not getting recorded on the 3M system and could result in the loss of flight pay.

10.3.7 Personnel Exchange Program/ DCMC/Any Aeronautically Designated Personnel Assigned to an Activity Where DSF Support Is Not Available

a. A completed naval aircraft flight record is required for each designated aviator who participates as a crewmember during the flight of military aircraft including foreign governments.

b. Crewmembers flying naval aircraft assigned to an embassy or to an activity where DSF support is not available shall complete the naval aircraft flight record as outlined in paragraphs 10.3.2 through 10.3.6. When the flight involves an aircraft for which no type equipment code or organization code has been assigned, contact COMNAVSAFECEN, Code 52, for assistance. COMNAVSAFECEN will request assignment of new codes as specified in Appendices K and Q of OPNAVINST 4790.2

c. Forward completed naval aircraft flight records to COMNAVSAFECEN, Code 52, for processing. Error reports will be returned to the aviator for corrections.

d. A monthly individual flight activity report (MIFAR) (NAVFLIRS-3), Figure 10-8, will be produced by the NAVFLIRS system and forwarded to the aviator by COMNAVSAFECEN. The MIFAR contains all individual activity for that month excluding those records appearing on the error reports. The lower half of the MIFAR contains a weapon proficiency summary, miscellaneous data section, and a FYTD summary indicating what is on record in the NAVFLIRS system. Missing data can be added to the FYTD summary by forwarding a completed naval aircraft flight record to COMNAVSAFECEN within 3 months from the date of the MIFAR.

e. Naval flight surgeons, naval aerospace physiologists, and naval aerospace experimental psychologists are often ordered to DIFOPS at nonaviation activities (hospitals, etc.) These personnel are additionally assigned (under "Special Instructions" section of BUPERS orders) by BUPERS (PERS-4415) to aviation activities for flight purposes. Assigned aviation activities shall assist in obtaining minimum annual flight time requirements and provide administrative support for documentation of flight time.

10.3.8 Civilian Crewmembers Flying Naval Aircraft (Active)

a. Civilian crewmembers gained to the IMR must use an equivalent military paygrade in block 48 of RECTYP 7D.

b. Civilians functioning as crewmembers shall follow the procedures outlined in paragraphs 10.3.2 through 10.3.6. Civilian crewmembers shall insert "CIV" in the first training code field in the aircrew data section (RECTYP 7C).

10.3.9 Naval Aviation Depots (NAVAVNDEPOTs). NAVAVNDEPOTs shall complete naval aircraft flight records as outlined in paragraphs 10.3.2 through 10.3.6 for flights involving aircraft where a NAVAVNDEPOT is designated as the reporting custodian. When a NAVAVNDEPOT has physical custody, but not reporting custody of an aircraft being flown, block 21 of RECTYP 7B (aircraft data) must be the ORG of the reporting custodian and block 10 of RECTYP 7C (aircrew data) must be E.

10.4 MASTER FLIGHT FILES

The master flight files shall be the only official flight record of naval aircraft and shall be maintained in accordance with this instruction by every reporting custodian of naval aircraft as defined in OPNAVINST 5442.2.

10.4.1 Submission Requirements. Submission of simulator copies to the National Records Center is not required. Each activity using simulators requiring submission of the naval aircraft flight record may retain copy three for local record purposes.

10.4.2 Specific Requirements

a. Only flights of aircraft of the aircraft reporting custodian shall be filed in the master files; however all flights shall be accounted for and no flight shall be filed in more than one activity's master flight files.

b. Each detachment shall maintain separate master flight files for the period while deployed with CVWs or while otherwise remotely separated on detached duty from the parent activity.

c. Reporting custodians having aircraft of more than one controlling custodian may include all flights thereof in the activity's master flight files regardless of controlling custody (i.e., one DPRO may have COMNAVAIRSYSCOM FS, RDT & E, and STF aircraft and be a separate reporting custodian for each).

d. No master flight files need to be maintained for aircraft while in a bailment or loan status.

e. For aircraft being ferried, information concerning such flights shall be placed in the master flight files of the reporting custodian of the aircraft being ferried.

SEP 96

ORG: AN2

NAME: MERRY INIT: J SSN: 071582639 GRADE: O-5 SVC: 1

BUNO	TEC	DATE	TIME DEP	ICAO DEP	TIME ARRV	ICAO ARRV	EX CD	FLT TIMES PPT	CPT	SGT	INST PCT	SIM	NITE TIME	****LANDINGS**** 1ST T	N	2ND T	N	3RD T	N	4TH T	N	**APPROACHES*** 1ST T	N	2ND T	N	3RD T	N	4TH T	N	A W CJ	SP Y	TRNG OU	CODE 1ST	2ND	3RD
161111	ASBE	6249	0800	KNZC	1110	KNZC		3.2			1.1			5	3	6	2					1	1											
161111	ASBE	6251	1000	KNZC	1220	KNZC		2.5			1.0	.5		6	2																			
161111	ASBE	6259	1830	KNZC	2220	KNZC		2.5	1.0		1.2		1.5	F	1							3	1											
161111	ASBE	6263	2000	KNZC	2400	KNZC		3.1	.9		2.4	.8	4.0	F	2							1	1											
161111	ASBE	6266	0900	KNZC	1115	KNZC		2.3			1.3			5	2	6	1																	
				•				13.6	1.9		7.0	1.3	5.5																					
161112	ASBE	6253	0830	KNZC	1200	NIKE		2.3	1.2		1.4			2	2	1	1					1	1											
161112	ASBE	6253	2145	NIKE	0145	KNZC		2.9	1.1		2.0	1.0	4.0	F	1																			
161112	ASBE	6272	0750	KNZC	1310	KNZC		4.0	1.7		2.2	1.5		6	1																			
				•				9.2	4.0		5.6	2.5	4.0																					
554623	VSBO	6273	0700	KNZC	1100	KNZC	T	2.0				2.0		6	1							1	1											
				•				2.0				2.0																						
				TOTAL AIRCRAFT TIME				22.8	5.9		12.6	3.8	9.5																						

WEAPONS PROFICIENCY DATA

TYPE DELIVERY	RUNS	SCORE
AIR-TO-AIR INFRARED	1	2100

MISCELLANEOUS DATA

NIGHT VISION GOGGLES	1.0

FISCAL YEAR SUMMARY

TEC	HRS	INST	NIGHT
ASBE	318.8	19.5	87.3
VSBO	10.5	10.5	
TOTAL	329.3	30.0	87.3

Figure 10-8. Monthly Individual Flight Activity Report (NAVFLIRS-3)

f. For new aircraft being accepted from contractors, reporting custodians (i.e., DPRO) shall include in their master flight files flights of new-production aircraft before Navy acceptance only if a naval aviator was aboard in a pilot or crew status. All flights after Navy acceptance shall be filed.

10.4.3 Procedures for Maintaining Master Flight Files

10.4.3.1 File Contents. Master flight files shall consist of securely bound current naval aircraft flight record originals (refer to paragraph 10.3.1, subparagraph h.). NALCOMIS-OMA produced facsimiles are approved for official use in the master flight file once they are countersigned by the pilot or mission commander.

10.4.3.2 Binders. Binders used for the master flight files are nonspecific except that they must provide a durable cover and backing and allow for the secure fastening of their contents. For example, naval aircraft flight records may be adequately filed in commonly used legal-size, vertical pressboard folders that allow for two stacks of forms.

10.4.3.3 Starting Files. Master flight files are started initially by a new activity.

10.4.3.4 Filing Procedures. When the activity's information requirements of the naval aircraft flight records are satisfied, this form shall be chronologically filed by date and time of departure, using "prong fasteners" or similar devices in a binder as compactly and securely as possible (i.e., two stacks per binder, if feasible). Though desirable, the requirement for chronology as to departure time is not absolute; reasonable variance is acceptable. The forms shall be logically arranged to permit easy access if flight data must be extracted at a later time. Each binder should contain records in one or more whole-month increments, be approximately 2 to 3 inches in thickness, and contain a transmittal letter. Each binder shall be externally labeled in indelible hand printing, clearly identifying the submitting activity/detachment, its location, and the monthly interval covered. For example, the label may read:

MASTER FLIGHT FILE
VA-115
PERIOD 10/1/86 through 11/30/86
NAS WHIDBEY ISLAND (10/1-11/15)
USS ENTERPRISE (11/16-11/30)

10.4.3.5 Missing Data. In some cases, the duration and locale of flights performed in relation to the location of the master flight files will be such that the files cannot be kept current if exact date/time chronology is to be

followed. In such isolated cases and in view of the annual retention period of the files, activities shall file all of the flight data that is available. When it is time to forward the annual block of files to the record center, those data that are missing shall be specified in the respective letters of transmittal with an indication, if possible, of what future files will contain the missing data. Each reporting custodian is responsible for the continuity and consistency of the master flight files.

10.4.3.6 Classification. Completed master flight files will ordinarily be unclassified but classification may be assigned as warranted by the data. Activities should not include in the files any data that warrant a classification higher than Confidential unless the information is an important record not suitably provided for by other media.

10.4.4 Master Flight File Certification. Each master flight file binder shall contain a letter of transmittal attached within and on top of the file contents and signed by the activity CO, OIC, or an officer designated in writing by the CO to do so. The following items shall be addressed:

a. Certification that attests to the accuracy, clarity, and completeness of the entries contained there for the time interval noted on the binder cover. Such certification, among other things, establishes a record of flights made by flight personnel who are in receipt of ACIP or hazardous duty incentive pay (HDIP).

b. A statement that items of historical interest (i.e., "first," "records," unique achievements, etc.) have been properly recorded for inclusion in the activity history submission in accordance with OPNAVINST 5750.12.

c. An itemization of unusual events that may lead to subsequent litigation or adverse public relations (i.e., inadvertent bomb drops, canopy "blow-offs," etc.) shall be included identifying the flight during which such an event occurred. An objective (noninterpretive, nonsubjective) description of the event by any person aboard (especially if not listed on the naval aircraft flight record) who is a party to or observer of the event shall also be included.

d. Mishaps or combat incidents shall be noted to the extent of identifying the mishap/incident report containing the relevant information. Identifying the aircraft that was lost, missing, or damaged, and personnel aboard who were killed, missing, or wounded is also required.

e. Missing data shall be identified with an indication, if possible, of what future files will contain the information.

f. Identification of any nonstandard abbreviations, codes, or the like used on the naval aircraft flight record is required.

g. The time interval within the period covered by the file during which the activity was in an official combat status shall be specified.

10.4.5 Storage/Forwarding of Master Flight Files. Master flight file binders will be accumulated and stored in chronological sequence in annual calendar year record blocks. The prior calendar year block shall be properly classified and identified by activity and year and returned to the Washington National Record Center following transfer procedures outlined in SECNAVINST 5212.5 as follows: when the activity is decommissioned and by 31 August of each year.

Note

When records are less than 1 cubic foot in bulk, delivery may be deferred until the succeeding year when accumulation of both years will be forwarded.

10.5 AVIATORS FLIGHT LOG BOOK, OPNAV 3760/31

10.5.1 General Policies

10.5.1.1 Requirements. All naval aviators/student naval aviators and naval flight officers/student naval flight officers shall possess a currently maintained Aviators Flight Log Book, OPNAV 3760/31, as the primary individual flight activity record. Possession and maintenance of the log book is optional for other personnel on duty involving flying. The continued submission of flight data for all aeronautically designated naval officers is mandatory.

a. Each duly issued Aviators Flight Log Book is considered to be the personal property of the individual who currently is or in the past was required to possess it. Flight log books of missing or captured personnel shall be handled in accordance with instructions governing disposition of the service record.

(1) Ensure that entries are legible, complete, and accurate.

(2) Ensure compliance wherever provisions for use of the log book require entries by or signature of other personnel.

(3) Keep the book(s) in good physical condition, guard against its loss, remove no pages from it (blank or otherwise), and use it as long as its capacity permits before requisitioning a new book.

10.5.2 Entries. Recording of information on the flight record (Figure 10-14), the accident and flight rule violation record (Figure 10-16) and the mishap record (Figure 10-17) is mandatory. Also, documentation of completion of annual NATOPS and instrument evaluations shall be recorded on the qualifications and achievements record (Figure 10-9). Recording of information in all other sections of the Aviators Flight Log Book is optional. When entries are made in optional sections, they shall be in accordance with procedures set forth here.

10.5.2.1 Qualifications and Achievements

a. These pages (Figure 10-9) are to receive whatever entries are required or appropriate to record significant qualifications or achievements accredited the individual.

b. Make entries in chronological order.

c. Enter revocation of previously held qualifications showing the date of revocation and signature of the commanding officer or authorized deputy.

10.5.2.2 Personal Changes. Use of this section (Figure 10-10) is at the discretion of the individual.

10.5.2.3 Summary of Total Flight Record. Use this page (Figure 10-11) to record the total accumulated pilot time earned in each model of aircraft up to and no further than the date of opening the log book.

10.5.2.4 Flight Record Summary, Total and for 12 Months Preceding This Log (Figure 10-12)

a. This page is to be filled in upon opening this log book and no entry should be made to it thereafter.

b. In the first column, show the total flying hours accumulated to date from the date military flying began for those items listed for which the record is available or a good estimate can be made; indicate which are estimates; leave unknowns blank.

c. For month columns, find the column for the month corresponding to the last month covered by the previous log book, enter the proper year of that month in the column heading, draw a heavy vertical line all the way down the right side of the column, and fill out the column. Then go to the next column to the left and, from data in the previous log book on the next to the last month covered by it, fill out that column. Proceed to the left in that manner until the January column is completed; then proceed to the December column and work to the left until all columns are completed.

d. Wherever appropriate, pen and ink changes are authorized.

QUALIFICATIONS AND ACHIEVEMENTS

(e. g. instrument card, patrol plane commander, aircraft type, CarQual, etc.)
(To be signed by Commanding Officer or authorized deputy)

QUALIFICATION	DATE	SIGNATURE

Make entries on lines, or in rubber stamp impressions only where on the page

Figure 10-9. Qualifications and Achievements (OPNAV Form 3760/31)

PERSONAL CHANGES

(As the Pilot may elect to record)

DATE	CHANGE

Figure 10-10. Personal Changes
(OPNAV Form 3760/31)

SUMMARY OF TOTAL FLIGHT RECORD

(Accumulated from beginning of military flying to date of opening this log book; for model, combine all configurations, e.g. F-8, not F-8A, F-8B, etc.)

AIRCRAFT MODEL	PILOT-TIME	AIRCRAFT MODEL	PILOT-TIME	A/C MODEL	A/C CDR

Figure 10-11. Summary of Total Flight Record
(OPNAV Form 3760/31)

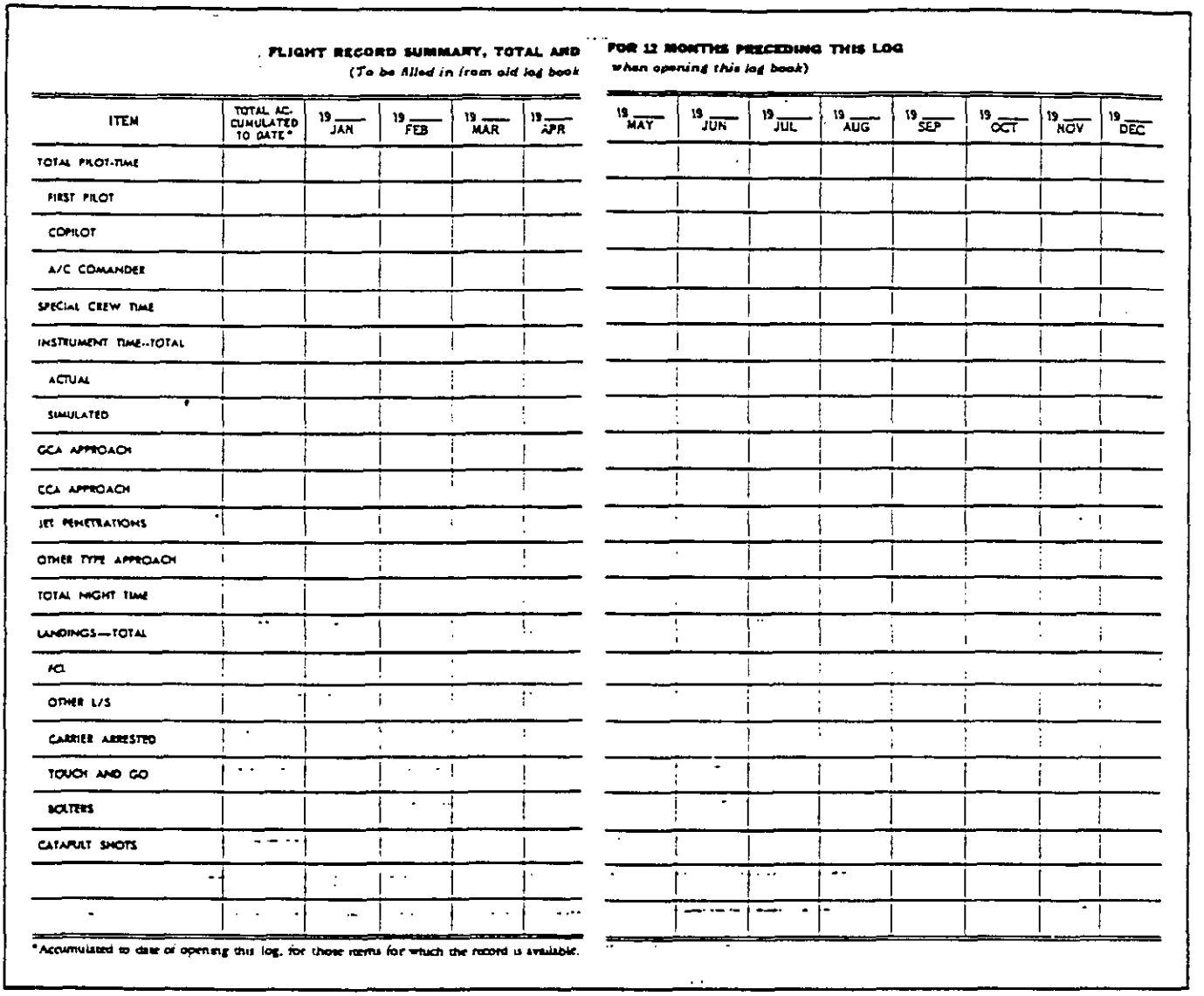
10.5.2.5 Summary of Pilot Time by Month, Model, Etc. (Figure 10-13)

a. This form is provided for monthly, quarterly, or annual summaries of data recorded in the flight-by-flight record section of this log book plus the same in the previous log book for those months back to the beginning of the year for which this log book was opened (or even further if the individual wishes).

b. It is suggested that the current year be entered on the first line. Then, on succeeding lines, enter the identity of that to be summarized (i.e., the T/M/S of aircraft (P-3C, F-4J, etc.)), the kind of flying time (FPT, CPT, SCT), instrument approaches, landings, or any other pertinent data. When the year is over, enter the number of the next year on the next line and start a new set of items to be summarized.

10.5.2.6 Flight-by-Flight Record (Figure 10-14)

a. Space is provided for 19 flights per page. If that number is exceeded for any month, sum the first 19 flights on the line "TOTAL THIS PAGE," post the totals on the first line of the next page, and continue entries. At the end of each month, all total spaces at the bottom of the page should be completed. Exception may be made for pilots who fly infrequently. In such cases, several months may be included on one page. The applicable month will be entered on the line preceding the first flight. Page totals will be entered at the bottom after each page is completed. Fill out pages and lines in chronological order as to year, month, day, and takeoff time. The date of a flight recorded in the Aviators Flight Log Book is the date upon which the flight started and not the date it ended. The number of flights will be entered in the



FLIGHT RECORD SUMMARY, TOTAL AND FOR 12 MONTHS PRECEDING THIS LOG

(To be filled in from old log book when opening this log book)

ITEM	TOTAL ACCUMULATED TO DATE*	19___ JAN	19___ FEB	19___ MAR	19___ APR	19___ MAY	19___ JUN	19___ JUL	19___ AUG	19___ SEP	19___ OCT	19___ NOV	19___ DEC
TOTAL PILOT-TIME													
FIRST PILOT													
COPILOT													
A/C COMANDER													
SPECIAL CREW TIME													
INSTRUMENT TIME--TOTAL													
ACTUAL													
SIMULATED													
GCA APPROACH													
CCA APPROACH													
JET PENETRATIONS													
OTHER TYPE APPROACH													
TOTAL NIGHT TIME													
LANDINGS—TOTAL													
FCL													
OTHER L/S													
CARRIER ARRESTED													
TOUCH AND GO													
BOLTERS													
CATAPULT SHOTS													

*Accumulated to date of opening this log, for those items for which the record is available.

Figure 10-12. Flight Record Summary (OPNAV 3670/31)

"REMARKS" column. For months during which no flights were made, enter (on the first line of the page following the last month during which flights were made) the statement "No flights (month and year) through (month and year)," or equivalent. Simulator flights shall be logged as regular flights in the Aviators Flight Log Book starting from the rear of the month-by-month section of the log book and working forward. More than 1-month's entries may be entered per page.

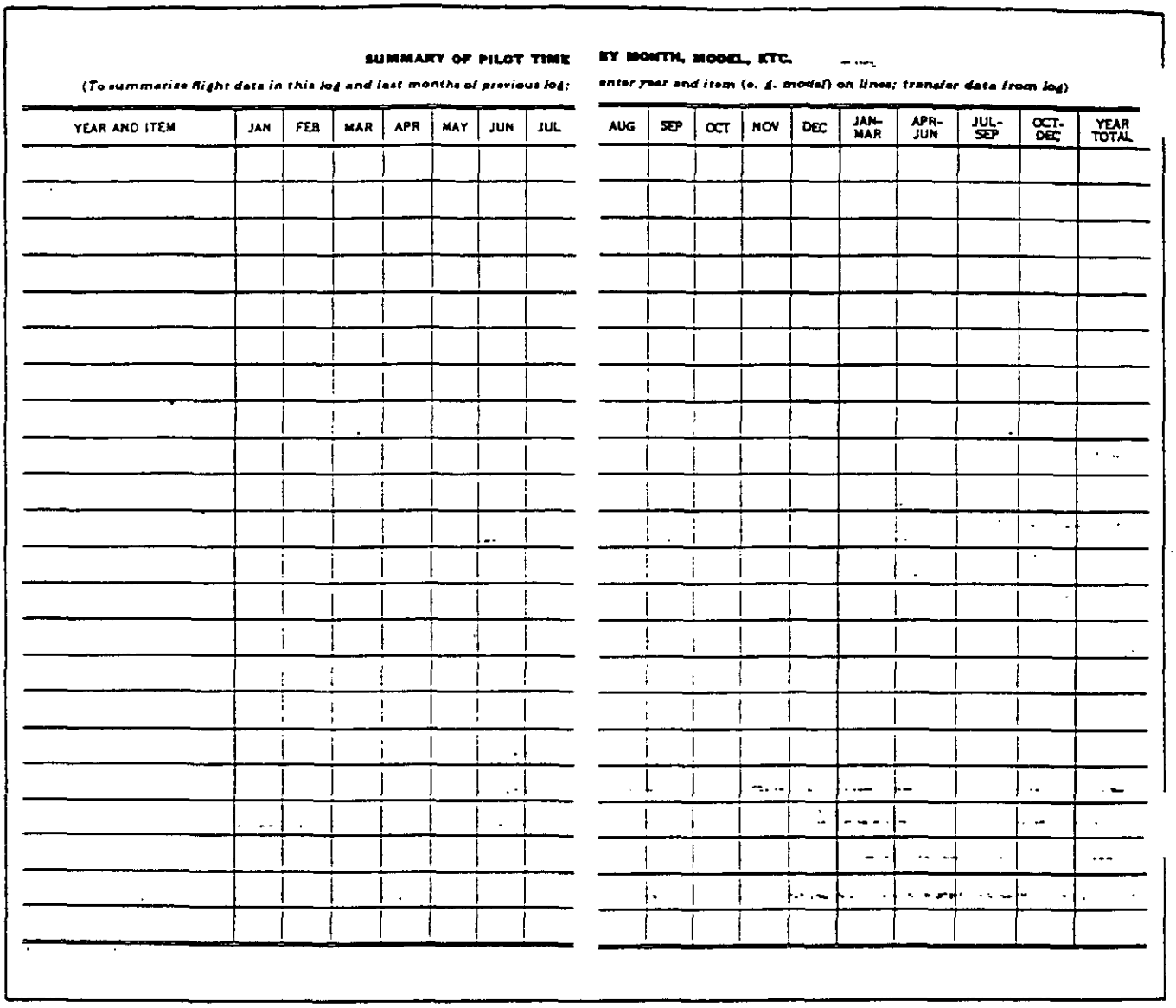
b. Always show the full model designation (A-7B, not A-7) and full aircraft bureau number. Whenever the reporting custodian of the aircraft is different from the activity to which the pilot is attached or from the activity whose aircraft the pilot normally flies, show the custodian's identity in the columns for aircraft and serial number or remarks column.

c. Entries to "KIND OF FLIGHT" (TMR code) column shall always be the code entered on the flight record for the individual.

d. "A/C COMDR."column may also be utilized to record either FPT, CPT, or SCT.

e. Final approaches are entered into the Aviators Flight Log Book as precision or nonprecision, utilizing the approach codes described in Appendix F.

f. The notation of pilot time report printed along the right-hand margin no longer applies.



SUMMARY OF PILOT TIME BY MONTH, MODEL, ETC.

(To summarize flight data in this log and last months of previous log; enter year and item (e. g. model) on lines; transfer data from log)

YEAR AND ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC	YEAR TOTAL

Figure 10-13. Summary of Pilot Time (OPNAV 3760/31)

g. Upon detachment and at the end of each month, the pilot shall sign all pages on which entries have been made. The commanding officer or an authorized deputy shall sign the page of the last entry at the end of each fiscal year and upon detachment of the individual. Spaces for those signatures are at the lower right corner of the form and are titled "CERTIFIED CORRECT RECORD" and "Approved." Signature of the commanding officer or his/her authorized deputy signifies "approval" of all entries made for the time period. "Approval" means:

(1) Apparent compliance in all respects with the provisions of this instruction on maintenance of the log book.

(2) All applicable instances of accident and flight rule violations since last "approval" have been duly recorded in the log book.

10.5.2.7 Flight Clothing Record (Figure 10-15)

a. Use of this form is self-evident; local practices in accordance with supply requirements shall be followed.

b. When opening a new log book, the last entry for each item appearing in the previous log book shall be carried forward.

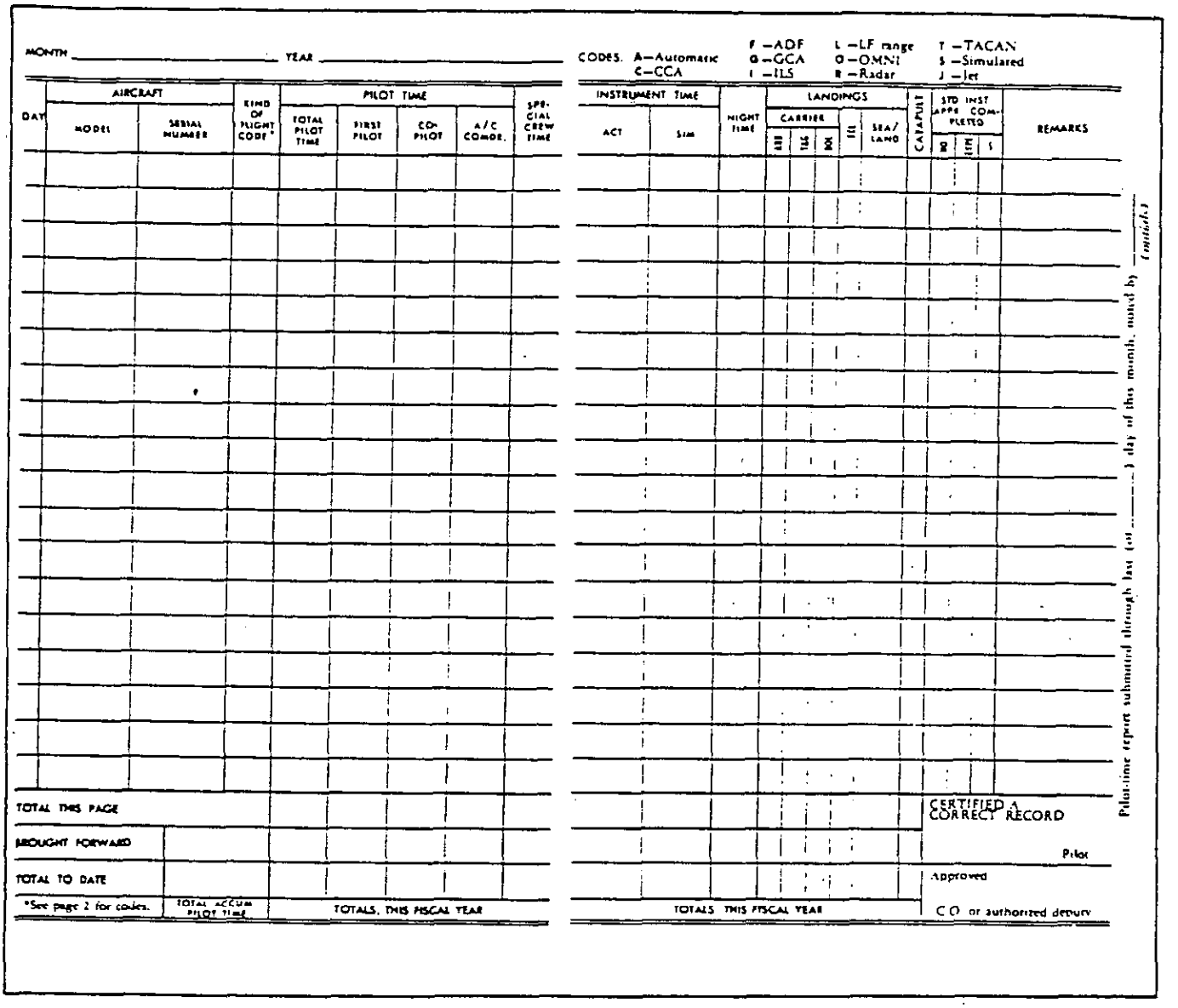


Figure 10-14. Flight Record (OPNAV 3760/31)

10.5.2.8 Mishap and Flight Rule Violation Record. There are two forms for this section: a "summary record" (one page) and a "mishap record" (three pages) as shown in Figures 10-16 and 10-17. Use these records in accordance with paragraph 3.8. Care shall be exercised to avoid the use of information from aircraft mishap investigation reports and endorsements (including the Naval Safety Center endorsement) as a basis for the entries. Such use would be in violation of the privileged nature of this information. In the case of substantiated flight violations, jacket entries reflect an administrative finding and such entries shall not be considered punitive or as possessing any judicial character. Entries of mishaps and violations shall be signed by an officer authorized to sign the individual report of fitness or of enlisted evaluation.

a. Summary record.

(1) This is a quantitative record of all substantiated violations of flying regulations and of all aircraft mishaps for which the individual has been assigned responsibility in any degree. Only those aircraft mishaps in which aircrew error was a factor shall be entered in the mishap column of the mishap and the flight rule violation records. Entries of mishaps or violations shall be authenticated by the commanding officer.

(2) Negative reports are required; comply by entering "0" (zero). They shall be authenticated by the commanding officer or an authorized deputy.

b. Mishap record. The mishap record shall include all flight mishaps and violations.

FLIGHT CLOTHING RECORD

Action code: O—Original Issue; R—Replacement Issue; M—Returned or Surveyed out; not replaced

ITEM	DATE	ACTION CODE	ACTION BY
BOOTS, flying			
CAP, summer			
COMPASS, wrist			
COMPUTER, navigation			
GLASSES, sun			
GLOVES summer			
GOGGLES, assembly kit			

Figure 10-15. Flight Clothing Record (OPNAV 3760/31)

(1) Each substantiated violation of flying regulations or an aircraft mishap in which the reporting custodian considers the action of flight personnel to be a cause factor shall be entered.

(2) Entries of mishaps and violations shall be signed by an officer authorized to sign the individual report of fitness or report of enlisted evaluation.

10.6 NATOPS FLIGHT PERSONNEL TRAINING AND QUALIFICATION JACKET, OPNAV 3760/32

The NATOPS flight personnel training and qualification jacket, OPNAV 3760/32, shall be maintained in accordance with Appendix A.

10.7 MONTHLY INDIVIDUAL FLIGHT ACTIVITY REPORT (NAVFLIRS-3)

The NAVFLIRS-3 details, by individual, spec. flight activity that was performed during the reporting period (submitted on naval aircraft flight records). In addition, a summarization by aircraft bureau number of flight times (FPT, CPT, and SCT), including instrument (ACT and SIM) and night times, and a summarization of weapons proficiency, miscellaneous, and FYTD summary is also provided.

10.8 INDIVIDUAL FLIGHT ACTIVITY REPORTING SYSTEM (IFARS)

10.8.1 Background

a. The IFARS database is a repository of individual flight data, including flight data accrued in authorized aircraft simulators. This data is maintained by the Naval Safety Center via the Naval Sea Logistics Center's Naval Flight Record Subsystem (NAVFLIRS) OPNAV Form 3710/4. IFARS is applicable to naval aviators, student naval aviators, naval flight officers, naval flight surgeons, and aerospace physiologists and psychologists in a DIFOPS or DIFDEN status on active duty or participating in the Navy or Marine reserve program.

b. The IFARS database provides valuable exposure information for flight safety analysis, mishap rates, budget justification, past and future flight program evaluation, and aviators' compliance with established annual flight minimums.

c. COMNAVSAFECEN records retention policy for the IFARS data is as follows:

(1) Individual flight-by-flight data, reported via NAVFLIRS, are retained for the current fiscal year plus the 5 previous fiscal years.

(2) Individual historical data, summarized by fiscal year and aircraft model, are retained for the current fiscal year plus the 30 previous fiscal years.

d. Corrections may be made to IFARS data by submitting a formal letter signed by the unit commanding officer to:

Commander, Naval Safety Center
Attn: Code 50
375 A Street
Norfolk, VA 23511-4399

ACCIDENT AND FLIGHT RULE VIOLATION RECORD

SUMMARY RECORD *(Negative report by zero number of incidents; to be signed by Commanding Officer or his authorized deputy)*

	PERIOD		NUMBER OF		SIGNATURE
	YEAR	QUARTER	ACCI-DENTS*	RULE VIOL	
Summary incidents prior to this book & subsequent 1-1-51	19				Signatures on record in previous log book authenticated:
	19				
	19				
	19				
	19				
	19				
Year in which this log book began	19	Jan-Mar			
		Apr-Jun			
		Jul-Sep			
		Oct-Dec			
Remaining period covered by this log book	19	Jan-Mar			
		Apr-Jun			
		Jul-Sep			
		Oct-Dec			
	19	Jan-Mar			
		Apr-Jun			
		Jul-Sep			
		Oct-Dec			
	19	Jan-Mar			
		Apr-Jun			
		Jul-Sep			
		Oct-Dec			
	19	Jan-Mar			
		Apr-Jun			
		Jul-Sep			
		Oct-Dec			
	19	Jan-Mar			
		Apr-Jun			
		Jul-Sep			
		Oct-Dec			

*Show ONLY those involving pilot error.

Figure 10-16. Accident and Flight Rule Violation Record (OPNAV 3760/31)

MISHAP RECORD *(Incident Record) (To be signed by an officer authorized to sign Report of Fitness or Evaluation Sheet of the pilot)*

Date _____ Model of aircraft _____
Damage _____ Primary cause factor _____
Flying regulation violated _____
_____
Remarks _____
_____
_____
Entry approved: Commanding

Date _____ Model of aircraft _____
Damage _____ Primary cause factor _____
Flying regulation violated _____
_____
Remarks _____
_____
_____
Entry approved: Commanding

Date _____ Model of aircraft _____
Damage _____ Primary cause factor _____
Flying regulation violated _____
_____
Remarks _____
_____
_____
Entry approved: Commanding

Date _____ Model of aircraft _____
Damage _____ Primary cause factor _____
Flying regulation violated _____
_____
Remarks _____
_____
_____
Entry approved: Commanding

Figure 10-17. Mishap Record (OPNAV 3760/31)

CHAPTER 11

General Instructions on Duty Involving Flying and Annual Flight Performance Requirements

11.1 SCOPE, PURPOSE, AND APPLICABILITY

It is accepted that duty involving flying constitutes hazardous duty, and it is recognized that additional pay should be provided as incentive to engage and remain in hazardous occupations. This chapter sets forth the policies for practical application of the above principle and provides instructions concerning mandatory requirements that will ensure that resources allocated to flying activities are applied economically and result in maximum benefit to fleet operations. The purpose of this chapter is to:

a. Summarize the policies concerning the flying status of all active duty and reserve Navy and Marine Corps personnel holding aeronautical designations and who are entitled to receive flight pay in accordance with the provisions of the DOD Military Pay and Allowance Manual.

b. Prescribe criteria, standards, and regulations to ensure that the skill of all aeronautically designated personnel is maintained at acceptable levels of readiness and to enhance aviation safety.

c. Implement the logging and reporting of flight simulator time.

d. Provide criteria for incentive pay entitlement under ACIP and HDIP.

e. This chapter is based upon the provisions contained in Section 301 of Title 37 of the U.S. Code and related policies established by the Secretary of Defense and the Secretary of the Navy. It shall apply to all aeronautically designated (rated) officer personnel assigned to duty in a flying status involving operational or training flights (DIFOPS), duty in a flying status not involving flying (DIFDEN), and enlisted personnel when assigned to duty in a flying status involving operational training flights (DIFCREW/DIFTEM).

11.1.1 General Policies

11.1.1.1 Flying in Other Than Military Aircraft. Personnel assigned to operational flying billets may fly in other than military aircraft if such flying is inherent in the duty assignment of the individual concerned. Aeronautically designated personnel, when recommended by competent authority and approved by CNO or CMC (Code ASM), may perform operational flying in other than military aircraft of the Armed Services. When so directed, such flying shall be conducted only by personnel qualified to perform such duties and shall be approved by the authority controlling the aircraft. Individual flying time (first pilot, copilot, and special crew time) so acquired may be credited towards minimum annual and semiannual flying requirements.

11.1.1.2 Flying in a Leave Status

a. Under conditional ACIP, all or any combination of individual flying time acquired by those aeronautically designated personnel assigned to operational flying billets or commands assigned to DIFOPS is creditable for flight pay except that flown while in a leave status.

b. Individual flight time acquired in a leave status may be used to fulfill the minimum annual and semiannual flying requirements.

11.2 OPERATIONAL FLYING

a. Operational flying duty means flying performed under competent orders by designated (rated) members while in assignments in which basic flying skills

are normally maintained in the performance of flight duties as determined by the Secretary of the Navy and flying performed by members in training leading to award of an aeronautical designation (rating). Operational flying positions are identified by specific billet code identifiers, either code 1 or code 2, and require the billet incumbent possess DIFOPS orders. All other billets are considered other than operational flying billets. Marine Corps operational flying assignments are determined by CMC (Code ASM).

b. The following definitions apply:

(1) DIFOPS — Duty in a flying status involving operational or training flights — Officers so ordered by BUPERS or CMC are required to maintain basic flying skills in the performance of their assigned duties and must be assigned to a designated operational flying billet or command. Those officers are considered in DIFOPS status and will accumulate months operational flying (MOF) time towards meeting ACIP "gate" requirements.

(2) Code 1 — Operational Flying — This category billet (Navy designator codes 1301, 1311, 1321, 1511, 6321, 7321) is derived from the application of crew ratios multiplied against unit equipment aircraft. It is a billet in which an aeronautically designated officer is required to participate as a crewmember in the operation of an aircraft or its weapon systems in support of specific aviation operational missions. Such operational missions include but are not limited to tactical air, ASW, SAR, fleet support, training, test and evaluation, and logistic or staff support.

(3) Code 2 — Operational Flying — This category billet (Navy designator codes 1302, 1312, 1322, 1512, 1812, 2102, 2302, 6322, 7322) requires an aeronautically designated officer to fly frequently and regularly in the performance of his/her assigned duties, but the requirement is not derived from the application of crew ratios against unit equipment aircraft. Designated billets involve crewmember flight duties that vary from complete aircraft/weapon system utilization to those less demanding in airborne duties and frequency of flight. Such operational duties include but are not limited to pertinent flight functions involving the exercise of command and control of aircraft, mission support, flight safety, aircrew evaluation, operational readiness, maintenance programs, and weapon test evaluation.

(4) Preceding codes 1 and 2 are not applicable to the Marine Corps.

11.2.1 Flight Surgeon Flying Policy

a. For purposes of this section the term "flight surgeon" applies equally to flight surgeons, naval aerospace experimental psychologists, and naval aerospace physiologists.

b. A flight surgeon who possesses an additional pilot or naval flight officer designation and is assigned to a flight surgeon billet (2102/2302) will fly only as a flight surgeon. Exceptions will require individual authorization by CNO (N889) with complete justification forwarded through and approved by BUMED.

c. A flight surgeon is only authorized to fly operationally when ordered DIFOPS, when assigned to a 2102/2302 billet, or when enrolled in aerospace medicine residency or advanced training programs in aerospace/preventive medicine.

d. A flight surgeon who satisfies the requirements of preceding paragraphs a and c may fly in actual control of any dual-controlled naval aircraft, subject to the same limitations as a pilot not qualified in model, if a NATOPS-qualified pilot in command is occupying the other cockpit seat. A flight surgeon who possesses an additional pilot designation and is assigned to a flight surgeon billet may fly in con of any dual-controlled naval aircraft in all phase. flight if a NATOPS-qualified pilot in command is occupying the other cockpit seat. This privilege may be authorized by local commanders on the basis of the individual flight surgeon's demonstrated interest and ability.

e. The following definitions apply:

(1) Designator Billet Code 2102 — This is an operational flying billet for a designated flight surgeon (NOBC 0045) and requires the incumbent to fly frequently and regularly in the performance of assigned duties.

(2) Designator Billet Code 2302 — This is an operational flying billet for a designated naval aerospace experimental psychologist (NOBC 0852) or an aerospace physiologist (NOBC 0849) and requires incumbents to fly frequently and regularly in the performance of assigned duties.

11.2.2 Aviation Operations Officer (AVOPS).

Aviation Operations Limited Duty Officers designa 632X and Aviation Operations Technician Warrant ficers designated 732X who are aeronautically desig- nated per NAVPERS 158391.

11.2.3 Additional Ratings

a. Officers possessing additional aeronautical ratings (astronauts, naval flight officers) will comply with the flight time requirements for pilots (excluding flight surgeon).

b. Flight surgeons qualified as naval aviators under the provisions of OPNAVINST 1542.4 shall meet the flight time minimums for pilots as set forth in this instruction.

11.2.4 Annual Flying Requirements for Aeronautically Designated Officer Personnel

11.2.4.1 Minimum Flying Hours

a. To assure an acceptable minimum level of readiness and to enhance aviation safety, the following annual and semiannual minimum flying hours shall be accomplished.

NAVAL AVIATOR

Fiscal Year Minimum Flying Hours
(Less than 20 Years Aviation Service)

	Semiannual	Annual
Pilot Time	40	100
Night Time	6	12
Instrument Time	6	12

Note

- Pilot time includes time credited as first pilot and copilot. At least 50 percent of all the annual minimum pilot requirements must be gained through flying. Of that, 50 percent must be first pilot time. Copilot time may be credited toward the accomplishment of the remaining flying hour requirements. Special crew time does not count towards satisfaction of the annual pilot time requirements set forth in this instruction. Paragraph 11.6 discusses logging of simulator time.

- Instrument time requirements are applicable to both fiscal year and an individual's instrument rating requalification.

- For example, an individual must meet instrument flight minimums for both the fiscal year (i.e., October through September) and, during the year, between the date of last instrument checkflight and subsequent instrument checkflight.

NFO, FLIGHT SURGEONS, AVOPS

Fiscal Year Minimum Flying Hours

	Semiannual	Annual
Special Crew	24	48

b. Fiscal year minimum flying hours for designated naval aviators who have completed 20 years of aviation service and are assigned to operational flying billets designated as 1302, 1312, or 1512 and USMC DIFOPS commands.

	Semiannual	Annual
Pilot Time	25	50
Night Time	3	6
Instrument Time	3	6

(1) Those hours do not reduce prerequisite pilot or instrument hours required for NATOPS qualification and instrument ratings.

(2) Individual aviation service entry dates (ASED) should be utilized to determine years of aviation service completed.

(3) Enlisted and nondesignated officers:

Fiscal Year Minimum Flying Hours

	Semiannual	Annual
Pilot Time	25	50

c. Marine aviators undergoing phase I training as outlined by MCO 3500.14 (T&R Manual, Vol. I) shall not be accountable for meeting semiannual/annual minimums as outlined in this instruction until they have received their primary aircraft military occupational specialist (MOS) designations, which are assigned upon completion of phase I training.

11.2.5 Prorating Minimums

a. Minimum annual/semiannual flying hour requirements shall be prorated based on each full month an individual is attached to a DIFOPS billet/command

beginning when initially cleared to fly (i.e., an aviator in DIFOPS status who is assigned to DIFDEN status and departs during July is required to obtain annual/semiannual flight minimums for the months of October through June. An aviator who detaches from DIFDEN status and joins a DIFOPS command during April is required to obtain annual/semiannual flight minimums from May through September).

b. Minimum annual flight time requirements apply only when assigned to permanent duty stations on DIFOPS orders. They do not apply while en route on permanent change of station (PCS) orders or on TAD assignments in excess of 3 weeks away from the parent command area where flight time activity is not available as determined by the individual's commanding officer.

c. Naval pilots/Naval flight officers undergoing replacement aircrew (RAC/FRS)/refresher training, as outlined by the respective service training manuals, shall not be accountable for meeting semiannual/annual minimums as outlined in this instruction until they have completed aviation/refresher training as defined in the applicable training manuals or are transferred from their training squadron/element.

11.2.6 Aviation Qualification/Currency Requirements Summary. A summary of aviation qualification/currency requirements is shown in Figure 11-1 for naval aviators, Figure 11-2 for NFOs/AVOPS flight surgeons, and Figure 11-3 for naval aircrewmen.

11.2.7 Flying Activity Denied

a. Flying activity is denied when ordered under DIFDEN status.

b. DIFDEN is duty in a flying status not involving flying. Officers so designated are prohibited from performing operational crewmember duties except as modified in the following paragraphs. DIFDEN personnel will continue to receive continuous ACIP if entitled by the Aviation Career Incentive Act of 1974.

11.2.7.1 Flying by Individuals in DIFDEN Status. Aeronautically designated officers in DIFDEN status may, on occasion, be required to perform operational flying on a temporary basis to accomplish specific tasks (for example, participation in flying exercises or test programs or to gain familiarity with selected operational weapon systems and procedures). Under such circumstances, the following will apply:

a. Approval is required for individuals to perform aircrew duties in a DIFDEN status. Waiver requests must be forwarded via chain of command to CNO (N889) or CMC (Code ASM), as appropriate. DIFDEN waiver request packages shall include endorsements by the applicant's type commander and the aircraft's type commander. Flight waivers may be granted for a single flight, a series of flights involving an exercise or test program, or for gaining familiarity with selected operational weapons systems and procedures. Marine Corps personnel shall refer to MCO 3710.4 for guidance on the issuance of waivers. Flight waivers may also be granted on a tour basis where an aviator's flight experience may be utilized periodically during the duty assignment. For personnel receiving flight waivers, minimum annual flight time requirements are not prescribed; however, appropriate NATOPS and other training qualifications apply for:

(1) Officers in pay grade 0-6 and above; a DIFDEN waiver is not required to perform temporary aircrew duties on flights involving exercises, test programs, or weapon system familiarity provided the individual's participation in such flights is required in the performance of assigned duties and responsibilities.

(2) Personnel whose DIFDEN flight activity exceeds approximately five flights per month on a regular basis should consider requesting a DIFDEN waiver or conversion of the billet to DIFOPS status, as appropriate.

b. Commanders must approve the use of command aircraft resources for personnel outside their command. Such approval must be included in the appropriate endorsement on initial submission of the waiver request.

c. Flights in DIFDEN status do not constitute operational flying duty for entitlement purposes or accumulation of operational flying months.

11.2.7.2 Policy Governing Management of DIFDEN Personnel. Competent authority will not be denied the services of aviation personnel assigned combat missions. All aeronautically designated personnel on DIFDEN orders serving under circumstances that qualify them for hostile fire pay, regardless of assigned billet, are permitted to perform mission or mission support flight duties if otherwise qualified to fly.

Type Qualification	Initial Qualification Required	Renewal Interval	Requirements By Flight Status				Waiver Authority
			DIFOPS			DIFDEN	
			1301/1311/ 1511	1302/1312/ 1512/1812	USMC	1300/1310/ 1510/USMC	
NATOPS Qualification	Yes	Annually	Yes	No (1)	Yes	No	None
Instrument Rating	Yes	Annually	Yes	No (1)	Yes	No	CNO/CMC
Annual Pilot Hour Minimums	No	Annually	100 Hrs. (6)	100 Hrs. (6)	100 Hrs. (6)	None	CNO/CMC/ COMNAVRESFOR/ CG FOURTH MAW TYCOMS
Annual Instrument Hours	No	Annually	12 Hrs. (6)	12 Hrs. (6)	12 Hrs. (6)	None	CNO/CMC/ COMNAVRESFOR/ CG FOURTH MAW
Annual Night Hours (8)	No	Annually	12 Hrs. (6)	12 Hrs. (6)	12 Hrs. (6)	None	CNO/CMC/ COMNAVRESFOR/ CG FOURTH MAW TYCOMS
Physical Examination	Yes	Annually	Yes	Yes	Yes	Yes	BUMED/BUPERS/ CMC
Physiology NAPTP	Yes	4 Years (2, 3)	Yes	Yes	Yes	No (7)	TYCOMS (9)
Emergency Egress Training	Yes (4)	Annually (5)	Yes	Yes	Yes	No (7)	TYCOMS
Water Survival NAWSTP	Yes	4 Years (3)	Yes	Yes	Yes	No (7)	TYCOMS (9)

NOTES:

1. Required only if functioning as pilot in command.
2. Low-pressure refresher training not required in rotary-wing aircraft unless required by special mission.
3. Refer to paragraph 8.4.2.
4. Dynamic ejection seat training required prior to flight in aircraft equipped with ejection seat.
5. Static training required prior to flight in different type ejection seat. (Refer to paragraph 8.4.1.)
6. Annual minimums for naval aviators who have completed 20 years of aviation service are 50 pilot hours, 6 instrument hours, and 6 night hours.
7. Required if in flying status with waiver.
8. Half the night time logged for the fulfillment of minimum pilot requirements must be unaided night vision time.
9. Initial training requirements may be waived by CNO/CMC only.

Figure 11-1. Aviation Qualification/Currency Requirements Summary (Naval Aviator)

Type Qualification	Initial Qualification Required	Renewal Interval	Requirements By Flight Status				Waiver Authority
			DIFOPS			DIFDEN	
			1301/1321/ 1511/6321/ 7321	1302/1322/ 1512/2102/ 2302/6322/ 7322	USMC	1300/1320/ 1510/USMC/ 6320/7320	
NATOPS Qualification	Yes (1)	Annually	Yes	No	Yes	No	None
Instrument Qualification	Yes (7)	Annually	Yes (7)	No (1)	Yes	No	CNO/CMC
Annual Flight Hour Minimums	No	Annually	48 Hrs.	48 Hrs.	48 Hrs.	No	CNO/CMC/ COMNAVRESFOR/ CG FOURTH MAW TYCOMS
Physical Examination	Yes	Annually	Yes	Yes	Yes	Yes	BUMED/BUPERS/ CMC
Physiology NAPTP	Yes	4 Years (2, 3)	Yes	Yes	Yes	No (6)	TYCOMS (8)
Emergency Egress Training	Yes (4)	Annually (5)	Yes	Yes	Yes	No (6)	TYCOMS
Water Survival NAWSTP	Yes	4 Years (3)	Yes	Yes	Yes	No (6)	TYCOMS (8)

NOTES:

1. Required only for those Flight Surgeons holding dual qualification as Naval Aviator/Flight Surgeon and for NFOs.
2. Low-pressure refresher training not required in rotary-wing aircraft unless required by special mission.
3. Refer to paragraph 8.4.2.
4. Dynamic ejection seat training required prior to flight in aircraft equipped with ejection seat.
5. Static training required prior to flight in different type ejection seat. (Refer to paragraph 8.4.1.)
6. Required if in flying status with waiver.
7. Required for 6321/7321, holding qualification as a naval officer.
8. Initial training requirement may be waived by CNO/CMC only.

Figure 11-2. Aviation Qualification/Currency Requirements Summary (NFO/AVOPS/Flight Surgeon)

Type Qualification	Initial Qualification Required	Renewal Interval	Requirements By Flight Status			Waiver Authority
			DIFCREW (Crewmember) 78XX 82XX	DIFTEM (Non Crew)	Prior to Designation	
NATOPS Qualification	N/A	Annually	Yes	No	Yes	TYCOM (9)
Flight Hour Requirement	No	N/A	48/Yr	4/Month	As Appropriate	CNO/CMC/ COMNAVRESFOR/ CG FOURTH MAW TYCOMS
Physical Exam	Yes	(7)	Yes	Yes	Yes	BUMED/BUPERS/ CMC
Physiology NAPTP	Yes (8)	4 Years (1, 4)	Yes	Yes	Yes	TYCOMS (8)
Emergency Egress Training	Yes (2)	Annually (1, 3)	Yes	Yes	Yes	TYCOMS
Water Survival NAWSTP	Yes (8)	4 Years (1)	Yes	Yes	Yes	TYCOMS (8)
NEC Requirements	7801/ 8201	N/A	(5)	(6)	(5)	COMNAVMIL-PERSCOM
MOS Requirements						

NOTES:

1. Refer to paragraph 8.4.2.
2. Dynamic ejection seat training required prior to flight in aircraft equipped with ejection seat.
3. Static training required prior to flight in different type ejection seat. (Refer to paragraph 8.4.1.)
4. Low-pressure refresher training not required in rotary-wing aircraft.
5. Must qualify for assigned Distribution NEC within 18 months. While undergoing training member must hold a 78XX or 82XX NEC. NEC qualification required prior to designation.
6. If a member is in training for a crewmember position, he/she must hold a 7801 or 8201 NEC. Members assigned under special mission categories do not require NEC identification. (BUPERSINST 1326.4 refers.)
7. Renewal requirements as stated in the Manual of the Medical Department, U.S. Navy, paragraph 15-60.
8. Initial training requirement may be waived by CNO/CMC only.
9. Annual NATOPS evaluation (flight and/or ground) may be waived by type commander (TYCOM) for DIFCREW whose command is not assigned the type aircraft in which individual is qualified. DIFCREW members not within TYCOM chain of command submit to CNO (N889) via chain of command.

Figure 11-3. Aviation Qualification/Currency Requirements Summary (NAC)

11.2.7.3 DIFOPS/DIFDEN Billet Review/ Assignment (USN Only). To ensure that manpower authorizations reflect current DIFOPS billet requirements, commanders shall annually review operational flight taskings and aircraft assignments to determine that individual command DIFOPS/DIFDEN billet requirements are accurately stated. Billet designator change requests are to be submitted in accordance with OPNAVINST 1000.16. Commanding officers will ensure (via ODCR validation) that only officers under DIFOPS orders are assigned to DIFOPS (13X1, 13X2) billets. Particular attention must be given to the assignment of the proper aviation billet indicator (ABI) code (DIFOPS = A, DIFDEN = 0). Commands desiring to assign individuals in a DIFOPS status to DIFDEN billets or vice versa must submit a request to BUPERS in accordance with BUPERSINST 7220.29. Failure to comply with these provisions will cause improper crediting of MOFs and could result in possible ACIP recoupment to affected aviators.

11.2.7.4 Joint Service Battlestaff Personnel Embarked on Naval Aircraft. Personnel of services other than USN serving as battlestaff crewmembers on board Navy E-6 aircraft conducting airborne strategic communications must meet, at a minimum, Life Support Training, Emergency Egress Training, Buddy Care Training and all standards set forth in the AFI 36-2209.

11.2.8 Policy Governing Assignment of Inactive Reserve Personnel. Inactive duty Reserve personnel will be assigned DIFOPS when ordered to an active duty flying drill pay billet. Reservists will be assigned in a DIFDEN status when ordered to specifically identified, nonactive duty flying drill pay billets that require aeronautical experience but not the maintenance of basic flying skills. Determination of billet types will be made by the Commander, Naval Reserve Force or CMC, as appropriate.

11.3 AVIATION CAREER INCENTIVE PAY

11.3.1 Definitions

11.3.1.1 Aviation Service. Aviation service is the active or inactive service performed by an officer who holds or is in training leading to an aeronautical rating or designation.

11.3.1.2 Officer Service. Officer service includes all service creditable under Title 37 U.S.C. 205 as a commissioned, warrant, and flight officer.

11.3.1.3 Aviation Service Career. An officer on extended active duty who holds an aeronautical designation shall be considered to be performing aviation service on a career basis, as prescribed in Title 37 U.S.C. 301a, so long as a member of the authorized rated inventory (i.e., commander and below, aeronautically designated) or is serving in pay grade 0-6 or above and is qualified for aviation service.

11.3.2 Policy and Procedures

a. It is DOD policy that officers who are qualified to perform aviation service on a career basis shall receive credit for operational flying duty only during those periods when assigned to designated operational flying assignments. Credit shall not be granted for any period during which a member is under DIFDEN orders. Officers who were past the 12 or 18 years of aviation service points on 1 June 1974 will be presumed to have had sufficient credit to meet the requirements for those points.

b. Operational flying duty time shall be credited in months. So far as fractions of months are concerned, the 15th day of the month is the break-even point for crediting or not crediting a month. Detachment from operational flying duty after the 15th day of any month or assignment to operational flying duty on or before the 15th day of any month entitles a member to credit for the entire month. The date a member signs out or otherwise vacates an assignment will be used as the date of detachment. The next day will be used as the date of assignment.

c. The number of years of aviation service for computing the appropriate rate of pay is computed beginning with the effective date of the initial order to perform aviation service as an officer. Within the Department of the Navy, the "effective date of the initial order to perform aviation service," hereafter referred to as the ASED, is the day, month, and year an individual first reports, on competent orders, to the aviation facility having aircraft in which members will receive their flight training leading directly to the award of an aeronautical designation and continues to accumulate from that date without exception as long as their flight designation remains in effect.

d. Officers medically incapacitated will be considered qualified for aviation service unless such incapacitation continues for more than 6 months. Disqualification for medical incapacity will be effected on the first day following a period of 365 days that commences on the date of incapacitation. Officers disqualified for medical reasons will not be requalified for aviation service until the condition resulting in incapacitation is reevaluated and the

CODE	DEFINITION
A	Continuous ACIP (0 to 12 years) — An aeronautically designated officer or aviation student with ASED prior to 2 Oct 79 or an aeronautically designated officer with ASED between 2 Oct 79 and 30 Sep 85 who had completed at least 72 MOF as of 1 Oct 91.
B	Continuous ACIP (12 to 18 years) — An aeronautically designated officer with from 12 to 18 years of aviation service who has met all criteria for code A and has completed at least 72 MOF prior to 12 years aviation service.
C	Conditional ACIP (12 to 18 years) — An aeronautically designated officer with from 12 to 18 years aviation service who has not performed the required MOF outlined for codes B and T. NOTE: To be entitled to receive ACIP this officer must: (1) meet DOD Pay Manual flying requirements of 4 hours per month and (2) be under DIFOPS orders and be in an operational flying billet (billet designator ending in 1 or 2).
D	Continuous ACIP (18 to 25 years) — An aeronautically designated officer with from 18 to 25 years aviation service who has met all criteria for code B and subsequently completed 132 MOF prior to 18 years aviation service.
E	Continuous ACIP (18 to 22 years) — An aeronautically designated officer with from 18 to 22 years aviation service who has met all criteria for code B and subsequently completed at least 108, but less than 132 MOF, prior to 18 years aviation service.
F	Conditional ACIP (over 18 years) — An aeronautically designated officer with from 18 to 22 years aviation service who has met all criteria for code B, but did not complete at least 108 MOF prior to 18 years aviation service. (Note under code C applies.)
G	Conditional ACIP (over 22 years) — An aeronautically designated officer who has met all criteria of code E and has reached 22 years of commissioned service. (Note under code C applies.)
H	ACIP Terminated — An aeronautically designated officer who has been promoted to the paygrade of 0-7 or above and has reached 25 years of commissioned service.
I	Conditional ACIP (over 25 years) — An aeronautically designated officer who has met all criteria for code D and has reached 25 years of commissioned service. (Note under code C applies.)
J	Conditional ACIP — Designated flight surgeons, aerospace medical physiologists, and aerospace physiologists. These officers have completed a course of study in aerospace medicine and are entitled to conditional ACIP only. (Note under code C applies.)
K	ACIP Termination — An aeronautically designated officer who has had flight status temporarily terminated because of medical incapacitation.
L	ACIP Termination — An aeronautically designated officer who has had flight status permanently terminated through attrition, voluntary termination, or naval aviator evaluation board.
M	ACIP Termination — An aeronautically designated officer or medical officer who has had flight status permanently terminated because of medical incapacitation.
N	Continuous ACIP (0 to 12 years) — An aeronautically designated officer or aviation student with ASED on or after 1 Oct 85 with less than 12 years aviation service.
O	Continuous ACIP (12 to 18 years) — An aeronautically designated officer with from 12 to 18 years aviation service who has met all criteria for code N and has completed at least 108 MOF prior to 12 years aviation service.
P	Continuous ACIP (18 to 25 years) — An aeronautically designated officer with from 18 to 25 years aviation service who has met all criteria for code O or T and completed 144 MOF prior to 18 years aviation service.
Q	Continuous ACIP (18 to 22 years) — An aeronautically designated officer with from 18 to 22 years aviation service who has met all criteria for code O or T and completed at least 120, but less than 144 MOF, prior to 18 years aviation service.
R	Continuous ACIP (0 to 12 years) — An aeronautically designated officer with ASED prior to 1 Oct 85 who had less than 72 MOF as of 1 Oct 91.

Figure 11-4. Aviation Status Indicator Codes (Sheet 1 of 2)

CODE	DEFINITION
S	Continuous ACIP (12 to 15 years) — An aeronautically designated officer with from 12 to 15 years aviation service who has met all criteria for code R and completed 72 MOF prior to 12 years aviation service.
T	Continuous ACIP (15 to 18 years) — An aeronautically designated officer with from 15 to 18 years aviation service who has met all critieria for code S and completed 108 MOF prior to 15 years aviation service.

Figure 11-4. Aviation Status Indicator Codes (Sheet 2 of 2)

officer is certified as medically qualified for operational flying duty by appropriate medical authority. Aviation career incentive pay and operational flying duty credit may not be authorized for any period during which an officer is medically disqualified for aviation service.

11.3.3 Aviation Career Incentive Pay for Rated Members (Rated Members Include Aeronautically Designated Naval Aviators and Naval Flight Officers)

11.3.3.1 Entitlement Status. Aviation status indicators (ASIs) are one-character codes that are used in various documents such as JUMPS and ODCRs to indicate an aviation officer's ACIP entitlement status. Figure 11-4 lists the ASI codes and their definitions.

11.4 ENLISTED CREWMEMBERS

11.4.1 Naval Aircrewmen

a. Enlisted crewmembers are divided into two general categories: those assigned to permanent flight orders (DIFCREW) and those in a temporary flight status. Those in a temporary flight status are divided into two different categories: personnel under training to become crewmembers (DIFTEM) and noncrewmember special mission personnel such as VIP support, flag support, quality assurance, communication, photo and medical specialists, research and development, etc.

b. Minimum flight requirements for all enlisted crewmembers are set forth in paragraph 11.2.3 and reflect requirements contained in the DOD Pay Manual. Minimum requirements to be met to obtain/maintain aircrew qualifications/designators are covered in Chapter 12 of this instruction and aircraft NATOPS manuals.

c. Aviation Airwarfare System operators and those personnel assigned by BUPERS under a distribution NEC of 82XX are considered aeronautically designated enlisted crewmembers. Enlisted noncrewmembers are not considered aeronautically designated.

11.4.2 Marine Corps Crewmembers

a. Enlisted crewmembers are assigned to temporary indefinite flight status for periods of not less than 120 days. Crewmember flight orders are issued to the following personnel:

(1) Personnel who are specifically assigned as regular full-time members of flightcrews, such as aircraft flight engineers, airborne radio operators, and enlisted navigators.

(2) Crewchiefs and assistant crewchiefs.

(3) Instructors whose duties require that the give in-flight instruction as part of a formal school curriculum.

(4) Personnel assigned to airborne command posts.

(5) Communication system operator.

(6) NATOPS evaluators/instructors.

b. Enlisted noncrewmembers are assigned to temporary indefinite or definite flight orders. Noncrewmember flight orders are issued to the following personnel:

(1) Personnel in an approved course that includes instruction in the curriculum.

(2) Personnel assigned duties requiring participation in aerial flight for special purposes that cannot be performed by a person already in receipt of flight orders.

(3) Personnel in an approved course of instruction to qualify as a helicopter aerial gunner/observer.

(4) Personnel assigned as qualified aerial gunners/observers.

(5) Personnel whose duties require participation in aerial flight to perform test, research, or evaluation of airborne technical equipment that cannot be performed by crewmembers.

c. Minimum flight requirements for all Marine enlisted crewmembers are set forth in the DOD Pay Manual. Minimum requirements to be met in order to obtain/maintain aircrew qualifications/designations are covered in Chapter 12 of this instruction and the aircraft NATOPS manuals.

11.4.3 Hazardous Duty Incentive Pay for Enlisted Member/Aeronautically Designated Enlisted and Nondesignated Officers. An enlisted member or nondesignated officer who is required by orders to participate in frequent and regular aerial flights must meet DOD Pay Manual flying requirements to be entitled to receive HDIP.

Note

Refer to MILPERSMAN and Chapter 12 of this instruction for policies concerning failure to meet flying hour minimums.

11.5 WAIVERS OF MINIMUM FLYING REQUIREMENTS

11.5.1 Authority to Waive. The CNO; CMC; COMNAVAIRRESFOR; CG FOURTH MAW CNET and all type commanders may waive any or all of the minimum annual requirements specified in this chapter, except flight pay requirements, when it is determined that the assignment of aeronautically designated personnel to a particular billet makes it impractical to fulfill the annual requirements. Waivers are not authorized for personnel on conditional ACIP.

11.5.2 Action Required

a. Commanding officers and administrative seniors shall review flight records of assigned aeronautically designated officers at the end of each fiscal year. Personnel who are deficient in the minimum flight time requirements stated in this chapter shall submit individual waiver requests containing the following information (Report Symbol OPNAV 3710-19):

(1) Rank, name, social security number, designator/MOS

(2) Aviation service entry date

(3) Instrument, night, and total flight time for the fiscal year by quarter

(4) A signed copy of the Standard Form 88 and medical endorsement if pertinent

(5) Type of orders issued (DIFOPS or DIFDEN) and dates to determine months DIFOPS/DIFDEN during the fiscal year

(6) Significant temporary additional duties that prevented the achieving of required flight time, if applicable

(7) PCS en route delays and date of arrival at final DIFOPS duty station, if applicable

(8) Name(s) of command(s) and associated unit identification code(s)/reporting unit code (UIC/RUC) and dates assigned during the fiscal year

(9) Billet title(s) assigned and associated billet sequence code(s) and designator code(s) as listed on the activities allowance or appropriate Marine Corps TO during the fiscal year

(10) Cause for the flight time delinquency.

b. Waiver Requests shall be marked "For Official Use Only" and forwarded to the type commander; CNO (N889); CMC (AAB); or Commander, Naval Air Reserve Force (Code 516), as appropriate. Waivers endorsed as "not approved" by type commanders shall be forwarded to CNO or CMC for final disposition. If aircraft availability or scheduling problems prevented accomplishment of flight minimums, the reporting custodian shall provide an appropriate endorsement for the waiver request fully outlining those circumstances that were beyond the control of the individual.

c. Waiver requests shall be submitted within 30 days following the end of the reporting period or when it becomes apparent that the minimums will not be met. Any delay in submission must be satisfactorily explained by the individual and addressed in the forwarding endorsement.

Note

Administration of the semiannual minimum flying hour program for naval personnel is the responsibility of the individual concerned and command assigned. A waiver of semiannual minimums is not required.

d. Flight status selection board actions that may be taken in response to waiver request from Navy personnel include:

(1) Granting waiver

(2) Conversion of billet to DIFDEN status

(3) Issuing letter of caution

(4) Direct convening of a locally constituted Field Naval Aviation Evaluation Board to consider the flight time deficiency

(5) Direct in the case of captains and above, via BUPERS, a specified case may be referred to the Navy Department Naval Aviation Evaluation Board.

e. Marine Corps Personnel — Commanding officers will review the flight performance of all personnel assigned to their commands on a quarterly basis. Any personnel whose performance becomes suspect for any reason shall be processed in accordance with paragraph 1162 of MCO P1000.6 (ACTS Manual).

11.5.3 Assignment of Other Than Permanently Designated Aeronautical Personnel. Flight status for technical observers and enlisted personnel assigned as crew or noncrewmembers will be terminated when their assigned duties do not require regular and frequent flights. Commanding officers and administrative seniors shall continually review the requirements for temporary flight orders for enlisted or duty involved flying as a technical observer (DIFTECH) for officer personnel. Personnel shall be ordered to flight duties or recommendations made to competent authority for issuance of flight orders to meet only the essential flight requirements of the command. Whenever the duties assigned to an individual no longer require regular and frequent participation in aerial flights, the commanding officer shall terminate temporary flight orders immediately; and, in the case of officer personnel, recommend to BUPERS or the Commandant of the Marine Corps, or other competent authority, cancellation of orders to DIFTECH. A requirement that formerly resulted in assignment to flight duties and that is no longer current shall not be a basis for continuing a member on temporary flight order or DIFTECH. The assignment to flight duties shall not constitute a reward for accomplishment in a nonflying billet.

11.6 POLICY GOVERNING LOGGING, REPORTING, AND USE OF SIMULATOR TIME

Procedures have been established to inaugurate the formal logging and reporting of aircraft simulator time. Time acquired in approved devices shall be logged on the naval aircraft flight record in the same manner as aircraft flight time. Detailed instructions for logging and reporting simulator time are contained in Chapter 10. Substitution of simulator time to satisfy the minimum proficiency requirements of this instruction is allowable for pilots, NFOs, and aircrew members. Additionally, an individual record of simulator time shall be maintained in the Aviators Flight Log Book.

11.6.1 Policy Governing Flying Time Substitution. The Navy has examined appropriately configured and instrumented flight simulators to determine the suitability of substituting time accumulated in such simulators for a portion of the total annual minimum flying time requirements. The concept is cost-effective and enhances maintenance of procedural competency.

a. Pilots, NFOs, and aircrewmen who have access to any of the authorized flight simulators as approved by CNO (N889F) shall utilize them, as practicable, in maintaining basic aeronautical skills.

b. Aircrew utilizing simulators to facilitate the maintenance of basic aeronautical skills may log simulator time (first pilot/copilot/special crew) to satisfy up to 50 percent of any annual or semiannual flying hour minimums as delineated in paragraph 11.2.4 (except night time requirements).

Note

- Simulator time is intended to assist in satisfying annual or semiannual flight time requirements. It should not be used towards the attainment of specific currency requirements as it is not a substitute for proficiency gained through actual flight in aircraft.

- The substitution of simulator time for aircrewmen applies to proficiency requirements only. It does not apply to attainment of minimum flight time for pay purposes as discussed in paragraph 11.4.3.

11.6.2 Policy Governing NATOPS Evaluation Flight Substitution. At the discretion of the squadron or unit commander, the NATOPS evaluation or any portion thereof may be conducted in a simulator that will satisfy the requirements imposed in specific evaluation areas.

11.7 INDIVIDUAL AND COMMAND RESPONSIBILITIES

11.7.1 Supervision. Commanding officers and administrative seniors shall supervise and administer flights under their command to ensure maximum training effectiveness per flight hour. Commands shall verify that BUPERS/CMC orders indicate DIFOPS, DIFCREW, DIFTEM, or DIFDEN status and Medical Service Group of aeronautically designated personnel reporting for duty in a flying status.

11.7.2 Responsibilities. Each individual and respective responsible senior (i.e., commanding officer or administrative senior) is accountable for compliance with these instructions. Responsible seniors shall ensure that sufficient opportunities are afforded all aeronautically designated personnel under their command to comply with the annual minimum individual flying time requirements set forth herein.

11.8 REVOCATION OF ORDERS TO DUTY INVOLVING FLYING

In addition to the procedures outlined in paragraph 11.7, orders to duty in a flying status will be revoked by competent authority in the case of those aeronautically designated personnel who:

a. Voluntarily request duty not involving flying

b. Fail to meet aviation physical or psychological qualifications

c. Fail to meet aeronautical standards or for other valid reasons are recommended for nonflying duties by a Field Naval Aviator Evaluation Board (FNAEB), or in the case of the Marine Corps, a Flight Status Selection Board (FSSB).

d. Have passed statutory retirement.

CHAPTER 12

Classification and Qualification of Flight Personnel

12.1 SCOPE

This chapter prescribes flight personnel classifications and establishes minimum requirements for various qualifications. Requirements prescribed here shall be used as the minimum when preparing aircraft NATOPS manuals or other amplifying directives.

12.2 MULTIPILOTED FIXED-WING AIRCRAFT (PILOT)

12.2.1 Pilot Classification

12.2.1.1 Classification. The following classifications are established for pilots of multipiloted fixed-wing aircraft requiring a qualified copilot to ensure accomplishment of the mission. The requirement for qualification as third pilot is optional. All requirements set forth herein for qualification as third and second pilot shall be met prior to designation as second pilot.

a. Aircraft commander

b. Second pilot

c. Third pilot.

12.2.1.2 Descriptive Titles. The foregoing classifications do not prohibit the use of descriptive titles that are indicative of a distinct aircraft class or employment (i.e., patrol plane commander, transport plane commander, COD transport plane commander, patrol plane second pilot, etc.). A descriptive title must be compatible with a significant feature of both the aircraft and its employment. For example, a pilot who qualifies for aircraft commander in a patrol class aircraft transporting passengers and cargo would qualify as a plane commander, not as a patrol plane commander or transport plane commander.

12.2.2 Specific Requirements for Qualification. The requirements listed below shall be met by pilots qualifying in multipiloted fixed-wing aircraft requiring a qualified copilot to ensure accomplishment of the mission. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, the class and model aircraft, and unit mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. The hours specified are the minimum required and they may be increased in individual manuals as aircraft increase in size and/or complexity. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplish events of the unit mission.

12.2.2.1 Third Pilot. To be qualified as a third pilot an individual shall:

a. Have pilot time in class and model as required by the commanding officer or higher authority and demonstrate a satisfactory level of skill in the following:

(1) Ground handling

(2) Flight technique in normal and emergency procedures.

b. Demonstrate thorough knowledge through oral and/or written examination in the following:

(1) Model aircraft and all associated equipment (flight manual)

(2) Fuel weight, aircraft configuration, and store/cargo loading as they effect takeoff, mission, and landing performances

(3) Appropriate NATOPS manual

(4) Survival and first-aid

(5) Applicable technical orders and notes, COMNAVAIRSYSCOM instructions and technical directives, OPNAV instructions, Federal Aviation Regulations, ICAO procedures, and SCATANA plans

(6) Search and rescue procedures

(7) Communication

(8) Unit mission and tactics

(9) Flight planning

(10) Local and area flight rules

(11) Flight safety.

c. Possess a current instrument rating.

12.2.2.2 Second Pilot. To be qualified as a second pilot an individual shall:

a. Complete the requirements for and possess to an advanced degree the knowledge, level of skill, and capabilities required of a third pilot

b. Have pilot time in class and model as required by the commanding officer or higher authority and demonstrate a high level of skill in the following:

(1) Tactical employment of the aircraft and all associated equipment in all tasks of the unit mission

(2) Operation instrument flying and night tactical operations in model.

c. Possess a current instrument rating

d. Demonstrate ability to direct and train officers and enlisted personnel of the flightcrew

e. Demonstrate thorough knowledge through oral and/or written examination of the following:

(1) Unit mission and tactics

(2) Fleet and type tactical instructions and doctrine

(3) Applicable portions of NWPs, fleet exercise publications (FXPs), JANAPs, Allied communication publications (ACPs), and ATPs

(4) Recognition applicable to unit mission.

f. Satisfactorily complete a NATOPS evaluation in model.

12.2.2.3 Aircraft Commander. To be qualified as an aircraft commander, the NATOPS manual must establish the designation for the particular model and an individual shall:

a. Complete the requirements for and possess to an advanced degree the knowledge, skill, and capabilities of a second pilot

b. Have a minimum of 700 hours total individual pilot time

c. Have a minimum of 100 hours pilot time in class and be NATOPS-qualified in model

d. Possess a current instrument rating

e. Demonstrate positive ability to command and train the officers and enlisted of the flightcrew including enforcement of proper air discipline

f. Demonstrate the qualities of leadership and mature judgment required to conduct advanced base or detached unit operations as officer in charge.

12.2.3 General Requirements for Qualification

12.2.3.1 Initial Qualification. On initial qualification for command, a pilot will normally be required to progress through third and second pilot classifications before being allowed to qualify for aircraft commander.

12.2.3.2 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout, including a minimum flight-familiarization phase as established by the commanding officer or higher authority, and demonstration of the knowledge, proficiency, and capabilities commensurate with desired classification.

b. After having gained initial qualification in a type and class of aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command,

unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

12.2.3.3 Time Limits. Under normal conditions, a pilot serving in a billet that requires eventual qualification as aircraft commander will gain initial qualification within 24 months after being cleared to fly in the command. Requalification after lapse of qualification should be attained within 6 months. Type commanders, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class aircraft and unit employment. Amplifying instructions shall prescribe procedures for the disposition of pilots who fail to qualify within the specified time limit.

12.3 MULTIPILOTED ROTARY-WING AIRCRAFT (PILOT)

12.3.1 Pilot Classification. The following classifications are established for pilots of multipiloted rotary-wing aircraft that may or may not require a qualified copilot to ensure accomplishment of the mission.

a. Helicopter aircraft commander

b. Helicopter second pilot.

12.3.2 Specific Requirements for Qualification. Requirements listed below are to be met by pilots qualifying in multipiloted rotary-wing aircraft. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, class and model aircraft, and the unit mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplishment of the unit mission.

12.3.2.1 Helicopter Second Pilot. In addition to being a designated helicopter pilot, a helicopter second pilot shall:

a. Have pilot hours in class and model as required by the commanding officer or higher authority and demonstrate satisfactory proficiency in the following:

(1) Ground handling

(2) Flight technique in normal and emergency procedures for flight including autorotations and the use of flotation gear, if applicable

(3) Navigation (all types applicable to unit mission and model aircraft)

(4) Tactical employment of the aircraft and associated equipment in all tasks of the unit mission

(5) Night tactical operations and operational instrument flying within the capability of the model.

b. Possess a current instrument rating

c. Demonstrate knowledge through oral and/or written examination on the following:

(1) Model aircraft and all associated equipment

(2) Operational performance in all flight maneuvers

(3) Weight and balance

(4) Appropriate NATOPS manual

(5) Survival and first-aid

(6) Applicable technical orders and notes, OPNAV instructions, FAR, ICAO procedures, SCATANA plans, and NAVAIRSYSCOM instructions and technical directives

(7) Search and rescue procedures

(8) Communication

(9) Unit mission and tactics

(10) Navigation

(11) Flight planning

(12) Local and area flight rules

(13) Fleet and type tactical instructions and doctrine

(14) Applicable portions of NWPs, FXPs, JANAPs, ACPs, and ATPs

(15) Recognition applicable to unit missions.

d. Satisfactorily complete a NATOPS evaluation in model.

12.3.2.2 Helicopter Aircraft Commander. To be qualified as a helicopter aircraft commander, the NATOPS manual shall establish the designation for the particular model, and an individual shall:

a. Have completed the requirements for and possess to an advanced degree the knowledge, proficiency, and capabilities of a second pilot

b. Have a minimum of 500 total flight hours

c. Have 150 flight hours in rotary-wing aircraft

d. Have pilot hours in class and model required by the commanding officer or higher authority and demonstrate the proficiency and judgment required to ensure the successful accomplishment of all tasks of the unit mission

e. Demonstrate ability to command and train the officers and enlisted members of the flightcrew

f. Demonstrate the qualities of leadership required to conduct advanced base or detached unit operations as officer in charge when such duty is required as part of the unit's mission or method of operation.

12.3.3 General Requirements for Qualification

12.3.3.1 Initial Qualification. On initial qualification for command of multipiloted rotary-wing aircraft, a pilot will normally be required to progress through the second pilot category before being allowed to qualify for aircraft commander.

12.3.3.2 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout including a minimum flight familiarization phase as established by the commanding officer or higher authority and demonstration of the knowledge, proficiency, and capabilities commensurate with desired classification.

b. After having gained initial qualification in a type and class aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

c. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary for the accomplishment of the unit mission.

12.3.3.3 Time Limits. Under normal conditions, a pilot serving in a billet that requires eventual qualification as aircraft commander will gain initial qualification as such within 24 months after being cleared to fly in the command. Requalification after lapse of qualification should be attained within 6 months. Air type commanders, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of pilots who fail to qualify within the specified time limit.

12.4 MULTIPILOTED TILT-ROTOR AIRCRAFT (PILOT)

12.4.1 Pilot Classification. The following classifications are established for pilots of multipiloted tilt-rotor aircraft that may or may not require a qualified copilot to ensure accomplishment of the mission.

a. Tilt-rotor aircraft commander

b. Tilt-rotor second pilot.

12.4.2 Specific Requirements for Qualifications. Requirements listed below are to be met by pilots qualifying in multipiloted tilt-rotor aircraft. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, class and model aircraft, and the unit mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplishment of the unit mission.

12.4.2.1 Tilt-Rotor Second Pilot. In addition to being a designated helicopter pilot, a tilt-rotor second pilot shall:

a. Have completed a formal fixed-wing syllabus administered by CNATRA or other established training activity.

(1) Have a minimum of 200 total flight hours

(2) Have a minimum of 30 flight hours in helicopters

(3) Have a minimum of 30 flight hours in fixed-wing aircraft.

b. Have pilot hours in class and model as required by the commanding officer or higher authority and demonstrate satisfactory proficiency in the following:

(1) Ground handling

(2) Flight technique in normal and emergency procedures for flight including dual engine failures and the use of flotation gear, if applicable

(3) Navigation (all types applicable to unit mission and model aircraft)

(4) Tactical employment of the aircraft and associated equipment in all tasks of the unit mission

(5) Night tactical operations and operational instrument flying within the capability of the model.

c. Possess a current instrument rating.

d. Demonstrate knowledge through oral and/or written examination on the following:

(1) Model aircraft and all associated equipment

(2) Operational performance in all flight maneuvers

(3) Weight and balance

(4) Appropriate NATOPS manual

(5) Survival and first-aid

(6) Applicable technical orders and notes, OPNAV instructions, FAR, ICAO procedures, SCATANA plans, and NAVAIRSYSCOM instructions and technical directives

(7) Search and rescue procedures

(8) Communication

(9) Unit mission and tactics

(10) Navigation

(11) Flight planning

(12) Local and area flight rules

(13) Fleet and type tactical instructions and doctrine

(14) Applicable portion of NWPs, FXPs, JANAPs, ACPs, and ATPs

(15) Recognition applicable to unit missions.

c. Satisfactorily complete a NATOPS evaluation in model.

12.4.2.2 Tilt-Rotor Aircraft Commander. To be qualified as a tilt-rotor aircraft commander, the NATOPS manual shall establish the designation for the particular model, and an individual shall:

a. Have completed the requirements for and possess to an advanced degree the knowledge, proficiency, and capabilities of a second pilot

b. Have a minimum of 500 total flight hours

c. Have a minimum of 30 flight hours in helicopters

d. Have a minimum of 30 flight hours in fixed-wing aircraft

e. Have 100 flight hours in tilt-rotor aircraft

f. Have pilot hours in class and model required by the commanding officer or higher authority and demonstrate the proficiency and judgment required to ensure the successful accomplishment of all tasks of the unit mission.

g. Demonstrate ability to command and train the officers and enlisted members of the flightcrew.

h. Demonstrate the qualities of leadership required to conduct advanced base or detached unit operations as officer in charge when such duty is required as part of the unit's mission or method of operation.

12.4.2.3 Initial Qualification. On initial qualification for command of mulipiloted tilt-rotor aircraft, a pilot will normally be required to progress through the

second pilot category before being allowed to qualify for aircraft commander.

12.4.2.4 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout including a minimum flight familiarization phase as established by the commanding officer or higher authority and demonstration of the knowledge, proficiency, and capabilities commensurate with the desired classification.

b. After having gained initial qualification in a type and class aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

c. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary for the accomplishment of the unit mission.

12.4.2.5 Time Limits. Under normal conditions, a pilot serving in a billet which requires eventual qualification as aircraft commander will gain initial qualification as such within 24 months after reporting to the command. Requalification after lapse of qualification should be attained within 6 months. Air type commanders, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of pilots who fail to qualify within the specified time limit.

12.5 NAVAL FLIGHT OFFICERS

12.5.1 Naval Flight Officer Classification

12.5.1.1 Classification. The following classifications are established for NFO crewmembers of aircraft requiring a qualified NFO crewmember to ensure accomplishment of the mission.

a. Tactical coordinator (VP, VS)

b. Navigator (VR, VQ)

c. Radar intercept officer (VF)

d. Bombardier/navigator (VA)

e. Combat information center officer/air control officer (VAW)

f. Electronic warfare evaluation officer (VQ)

g. Electronic countermeasures officer (VAQ)

h. Airborne communication officer (VQ)

i. Supporting arms coordinator (airborne) (VMO).

12.5.1.2 Intermediate Classification. The foregoing classifications do not prohibit the use of intermediate classifications that are indicative of a distinctive aircraft class or employment. Such classifications must serve to indicate progress and achievement levels prior to final qualifications (i.e., patrol plane navigator and patrol plane tactical navigator indicate progress toward designation as ASW tactical coordinator for patrol class aircraft).

12.5.2 Specific Requirements for Qualificatio

The requirements listed below shall be met by NFOs qualifying in aircraft requiring a qualified NFO crewmember to ensure accomplishment of the mission. Commanding officers and qualifying authorities, or higher authority, shall prescribe proficiency standards, detailed factors, and specific minimums based on this chapter, the class and model aircraft, and the unit mission. Within each classification, the weight and emphasis on the factors enumerated must be determined by the activity. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary to accomplishment of the unit mission. To be qualified as an NFO crewmember for a specific class and model of aircraft, an individual shall:

a. Have flight hours in class and model as required by the commanding officer or higher authority and demonstrate a satisfactory level of skill in the following:

(1) Tactical employment of the aircraft and all associated equipment in all tasks of the unit mission

(2) Flight technique during normal and emergency procedures

(3) Navigation (all types applicable to unit mission and aircraft model).

b. Demonstrate thorough knowledge through oral and written examination on the following:

(1) Model aircraft and all associated equipment (flight manual)

(2) Unit mission and tactics

(3) Fleet and type tactical instructions and doctrine

(4) Applicable portions of NWPs, FXPs, JANAPs, ACPs. and ATPs

(5) Recognition applicable to unit mission

(6) Communication

(7) Navigation

(8) Flight planning

(9) Local and area flying rules

(10) Flight safety

(11) Search and rescue procedures

(12) Survival and first-aid

(13) Fuel weight, aircraft configuration, and store/cargo as they effect takeoff, mission, and landing performance

(14) Applicable technical orders and notes, COMNAVAIRSYSCOM instructions and technical directives, OPNAV instructions, Federal Aviation Regulations, ICAO procedures, and SCATANA plans

(15) Appropriate NATOPS manual.

c. Possess current instrument qualifications as delineated in Chapter 13.

d. Satisfactorily complete a NATOPS evaluation in model.

12.5.3 General Requirements for Qualification

12.5.3.1 Initial Qualification. On initial qualification, an NFO will normally be required to progress through any prescribed intermediate classification levels before being qualified in class and model.

12.5.3.2 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through intermediate classification levels. Such requalification or qualification shall consist of an appropriate checkout, including a minimum flight-familiarization phase as established by the commanding officer or higher authority, and demonstration of possession of the knowledge, proficiency, and capabilities commensurate with the classification.

b. After having gained initial qualification in a type and class of aircraft, on subsequent qualification in another type or class, progression through any intermediate classification may be required of NFOs who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

12.5.3.3 Time Limits. Under normal conditions, an NFO serving in a billet that requires eventual qualification as an NFO crewmember will gain initial qualification as such within 24 months after being cleared to fly in the command. Requalification after lapse of qualification should be attained within 6 months. Type commanders, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class of aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of NFOs who fail to qualify within the specified time limit.

12.6 MARINE AERIAL NAVIGATION OFFICER

a. For navigators of aircraft requiring a qualified aerial navigation officer, the following classification is established: aerial navigation officer (transport/aerial refueler aircraft).

b. The following are the specific requirements for qualification:

(1) Must have successfully completed the Aerial Navigator School

(2) Must meet the requirements delineated in paragraph 12.4.2, as applicable.

12.7 QUALIFICATIONS OF UAV FLIGHTCREW

IPs, EPs, and POs should receive initial training prior to arriving at their operational unit. At their operational unit, flightcrew shall qualify in their position(s) through the appropriate flight syllabus.

12.8 TRAINING OF ENLISTED FLIGHT PERSONNEL

12.8.1 General. This section amplifies the requirements for training enlisted personnel in a flight status contained in MILPERSMAN, articles 2620150 and 2620300, and DOD Pay Manual, Part 2, Chapter 1, articles 20101-20114 inclusive.

12.8.2 Flight Records. Commanding officers of units having allocations of enlisted flight orders shall ensure that all enlisted flightcrew are documented in accordance with Chapter 10 of this instruction. MIFAR will be used as the individual's flying time record.

12.8.3 Auditing of Enlisted Flight Record. A Flight Order Audit Board shall be appointed by the commanding officer and consists of at least three officers. One shall be from the supply department (when assigned) and one from the operations department. The board shall audit enlisted flight records to ensure that all requirements for hazardous duty pay have been met. The audit should be performed immediately following the end of each month in accordance with BUPERSINST 1326.4 or MCO 1326.2 and prior to the submission of flight certificates. All entries and documents pertaining to flight order administration shall be included.

12.8.4 Allocation of Temporary Flight Orders. Commanding officers shall submit their requirements for noncrewmember special mission flight orders as required by higher authority. When flight orders and monetary limitations are received, they allocate them within their command. Temporary flight orders (DIFTEM) shall only be allocated to individuals by BUPERS or NAVRESPERSCEN. Temporary flight orders as well as noncrewmember special mission aircrew orders shall be issued only to those personnel who have been found physically qualified in accordance with MANMED and have satisfied the requirements of applicable paragraphs of Chapter 8 of this instruction.

12.9 CLASSIFICATION AND QUALIFICATION OF NAVAL AIRCREWMAN

12.9.1 Naval Aircrewman Classification. Classifications of naval aircrewmen are established in the Navy Enlisted Classification Code Manual (NAVPERS 18068), the Military Occupation Specialty Manual, aircraft NA TOPS manuals, and other applicable naval directive

12.9.2 General Requirements for Qualification as Naval Aircrewman. All naval aircrew shall meet the following requirements for qualification and requalification.

a. Comply with requirements of Chapter 8.

b. Log at least 50 hours of training/operational flight time in the crew position and aircraft in which qualification is desired. Satisfactory completion of a CNO-approved aircrew training syllabus may be substituted in lieu of this requirement.

c. Complete a NATOPS evaluation in the crew position in accordance with the applicable NATOPS manual.

12.9.3 Proficiency. A naval aircrew designation is valid only in the aircraft model (paragraph 1.3) (P-3, S-3, SH-3) in which the qualification was achieved. Proficiency in all requirements for initial qualification must be maintained and demonstrated periodically. Regular performance of aircrew duties sufficient to satisfy the requirements for crewmember flight orders is the minimum proficiency standard to retain qualification.

12.9.4 Maximum Time Limit for Qualification as Naval Aircrewman

a. Personnel under DIFCREW flight orders shall be allowed a maximum of 18 months from the date of reporting on board for duty at a permanent duty station (after successful completion of FRS training) or 18 months from the time training commenced for command-nominated personnel to achieve qualification as a naval aircrewman. During that period, they shall be considered in training for designation as naval aircrew unless qualification is achieved earlier. DIFCREW flight orders for personnel who fail to qualify as naval aircrew within the allotted 18-month period shall be suspended.

b. Personnel under DIFTEM flight orders shall be allowed a maximum of 18 months from the date of authorization. Personnel shall be in training for a valid billet, and requests for DNEC and DIFCREW status shall be submitted no later than 8 months prior to DIFCREW vacancy occurring. DIFTEM flight orders shall be suspended for DIFTEM personnel who fail to qualify within 18 months.

12.9.5 Time of Requalification for Naval Aircrewman. Requalification should be accomplished within the below time limit of reporting to a unit that has the same type of aircraft as that within which the aircrew designation was attained. Annual NATOPS evaluations are separate qualifications. For guidance on time limits for expired annual NATOPS evaluations, see Chapter 2, paragraph 2.4.

Lapse of 2 years or less — 6 months

Lapse of more than 2 years — 12 months

Selected Air Reserves — 12 months

12.9.6 Qualification Waivers for Naval Aircrewmen. Immediate seniors (wing, functional wing commanders) may waive initial and requalification time limits for aircrew personnel who fail to qualify within prescribed time limits. Justification for such waivers includes lack of appropriate security clearances, duty assignments, or periods of TAD. Appropriate documentation shall be made in the service record, NATOPS training jacket, and to BUPERS.

12.10 QUALIFYING AUTHORITIES

12.10.1 Aeronautical Organizations. Commanding officers or higher authority in the chain of command are empowered to qualify flight personnel in the classifications established here and to issue the certification thereof. The immediate superior in command to the commanding officer or higher authority may assume the function of approving the qualifications of aircraft commanders and issue the certifications of qualification. In such cases, amplifying instructions shall be specific in regard to the authority vested in the commanding officer.

12.10.2 Nonaeronautical Organizations. The senior aviation line officer attached to activities that are not a part of the aeronautical organization (naval missions, etc.) is empowered to qualify flight personnel in the appropriate classifications and to issue certification. Such activities may request checkout and examination assistance from the nearest naval aviation command with the required personnel and facilities.

12.10.3 Fleet Replacement Squadrons. Commanding officers of fleet replacement squadrons or higher authority may, with respect to replacement flight personnel, determine initial qualification as flight personnel based on satisfactory completion of applicable NATOPS requirements.

12.10.4 Guidance for Qualifying Authorities

12.10.4.1 Qualification Opportunity

a. Flight personnel should be afforded ample opportunity to complete the necessary training to permit qualification without delay after minimum experience requisites are met.

b. Pilots shall be advanced commensurate with their experience and demonstrated ability.

c. Pilots should be assured the opportunity to qualify for aircraft command during their first tour of duty.

12.10.4.2 Previous Experience

a. Flight experience acquired in previous commands in varied aircraft is important to overall qualification and due weight shall be given such experience in qualifying and requalifying flight personnel in accordance with this instruction. It is not the intention of this chapter to requalify pilots currently designated.

b. A pilot qualification shall remain effective as long as the pilot remains current in class and model and regularly performs missions required of the command unit or activity unless specifically revoked by the qualifying authority or appropriate superior. Commanding officers shall always retain the right to suspend a pilot's qualification for a serious breach of flight rules, demonstrated lack of ability, or serious errors of judgment. For guidance in respect to revocation or lengthy suspension of qualifications, attention is directed to MILPERSMAN, article 3410300, and MCO P1000.6 (ACTS Manual), paragraphs 2005 and 3005.

12.10.4.3 Additional Requirements. Nothing in this instruction is intended to curtail establishment of any additional or special requirements that may be considered necessary for the qualification of a pilot in the classifications previously listed. The provisions of this instruction are not to be interpreted as contrary to proficiency standards that have been or may be established by appropriate authority.

12.11 QUALIFICATION TO TRANSITION INTO JET, HELICOPTER, OR TILT-ROTOR AIRCRAFT

Requirements to transition into jet, helicopter, or tilt-rotor aircraft (initial qualification) will normally be accomplished through a formal syllabus administered by CNATRA or other established training activity.

Circumstances may occur where it is desirable or necessary that such transition training be administered by other commands. Commands capable of performing such transition training with no degradation of training quality or safety may do so providing they meet the requirements stated in paragraph 12.11.1.

12.11.1 Minimum Training Syllabus Requirements. Where the NATOPS manual does not specify a transition syllabus, the following minimum syllabus requirements for transition to jet, helicopter, and/or tilt-rotor aircraft shall apply.

12.11.1.1 All Pilots. All pilots shall:

a. Successfully complete the approved OFT/WST and naval air maintenance trainer (NAMT) syllabus(es) or equivalent

b. Satisfactorily complete a NATOPS evaluation in model.

12.11.1.2 Helicopter Transition Pilots. All helicopter transition pilots shall complete:

a. The prescribed CNATRA written examination on helicopter aerodynamics

b. A minimum of 25 flight hours of dual instruction under the tutelage of a designated instructor

c. A minimum of 5 additional flight hours of training that shall be solo when conducted in a helicopter model in which single-piloted flight is authorized.

12.11.1.3 Jet Transition Pilots. All jet transition pilots shall complete:

a. A minimum of 10 flight hours of dual instruction under the tutelage of a designated instructor

b. A minimum of 5 additional flight hours of solo syllabus training.

12.11.1.4 All Fixed-Wing Multiengine Transition Pilots. All fixed-wing multiengine pilots shall complete:

a. A minimum of 10 flight hours of dual instruction with a designated instructor

b. A minimum of 5 additional flight hours of syllabus training.

12.11.1.5 Tilt-Rotor Transition Pilots. All tilt-rotor transition pilots shall complete:

a. The helicopter and tilt-rotor aerodynamics and mechanical systems written examinations provided by an established training activity.

b. A minimum of 25 flight hours of dual instruction under the tutelage of a designated instructor.

c. A minimum of 5 additional flight hours of syllabus training.

12.11.2 Action. Commanding officers or their seniors in the chain of command desiring to initiate jet/helicopter/tilt-rotor transition training shall comply with the following:

a. Prior to initiating training, submit the training syllabus to CNO (N889) for approval.

Note

Commands may implement syllabuses prescribed in the aircraft NATOPS manuals without further approval of CNO.

b. Screen applicants to ensure that transition training is in the best interests of the naval establishment.

c. Administer ground and flight training, as necessary, in accordance with the approved syllabus.

d. Enter qualifications achieved in the flight personnel training/qualifications jacket.

12.11.3 Chief of Naval Air Training Responsibility. CNATRA shall:

a. Continue to provide transition training in accordance with approved quotas and syllabuses.

b. Provide a standard helicopter aerodynamics syllabus for use of requesting commands.

12.12 REPORTS

12.12.1 Navy Flight Personnel. Navy flight personnel who have qualified in one of the classifications shall have a certification signed by the qualifying authority placed in their officer service record (NavPers 3021) or enlisted service record (NavPers 601), as appropriate. Certifications shall indicate the class and model aircraft in which qualified, together with a concise

statement of the type of operations in which qualified (i.e., ASW, mining, transport, utility, etc.). The reporting senior shall enter in the duties section of the report on the fitness of officers a statement indicating such qualification in the next regular report of fitness. A copy of the certification to command multipiloted aircraft shall be forwarded by the qualifying authority to BUPERS each time a pilot qualifies for command in a separate class aircraft. No other distribution of copies of flight certification is required.

12.12.2 Marine Corps Flight Personnel. Marine Corps flight personnel who have qualified in one of the classifications shall have a certification signed by the qualifying authority placed in their NATOPS flight personnel training/qualification jacket (OPNAV 3760/32 (11-73)) and their officers qualification record (NAVMC 123A (Rev 10-74)) or enlisted service record book (NAVMC 118a (Rev 1-75)), as appropriate.

CHAPTER 13

Instrument Requirements and Qualifications

13.1 INSTRUMENT RATINGS AND QUALIFICATIONS

13.1.1 Pilots/Naval Flight Officers Required To Maintain Instrument Ratings/ Qualifications

13.1.1.1 Requirement. All naval pilots in DIFOPS flying status except DIFOPS Code 2 aviators are required to maintain a valid instrument rating. NFOs in a DIFOPS status are required to maintain a valid instrument qualification. Commanding officers shall use every means available to assist pilots/NFOs in meeting those requirements.

13.1.1.2 Period of Grace

a. Pilots/NFOs returning from DIFDEN status or duties where a valid instrument rating/qualification could not be maintained and who had requirements waived by CNO or CMC shall be granted a period of 6 months in which to requalify.

b. Navy/Marine Corps Reserve pilots/NFOs recalled to active military service in a DIFOPS status shall be granted a period of 6 months from date of first reporting in which to qualify.

13.1.2 Renewal/Expiration of Instrument Ratings and Qualifications

13.1.2.1 Renewal/Expiration. Renewal evaluation of current instrument ratings for all naval pilots and instrument qualifications for NFOs may be accomplished within 60 days preceding expiration of the current evaluation and is valid for 12 months from the last day of the month in which the current evaluation expires. Otherwise, instrument ratings/qualifications shall be valid for 12 months from the last day of the month in which the evaluation is flown. When pilots/NFOs are ordered to a formal course of flight instruction that includes an instrument syllabus and their instrument rating/ qualification expires prior to or during the training period, the instrument rating/qualification may be delayed until the pilot/NFO achieves NATOPS qualification in model aircraft for which the pilot/NFO is undergoing training.

13.1.2.2 Instrument Ground Training, Examination, and Flight Evaluation. Unless otherwise extended in accordance with this instruction, all naval aviators and NFOs in DIFOPS status shall annually:

a. Attend a formal TYCOM-approved instrument ground syllabus if one is available. This syllabus shall include:

(1) Spatial disorientation review.

(2) Use of non-DOD instrument approach/ departure procedures.

b. Satisfactorily complete a written examination covering the following subject areas:

(1) Federal Aviation Regulations as they apply to flight under instrument conditions .

(2) Navigational systems and procedures, instrument approach procedures, and radio communication procedures

(3) Meteorology, including the characteristics of air masses, fronts, thunderstorms, microbursts, and windshear; meteorological reports, elements of the DD-175-1, and pilot's responsibility for obtaining a thorough weather brief; and aviation severe weather hazards, to include pilot's responsibility to determine that the route of flight remains clear of aviation severe weather watch areas

(4) Instrument procedures contained in pertinent military directives.

Note

The written instrument examination shall be administered incident to the formal instrument ground training syllabus. When such a syllabus is not available, the command to which the pilot/NFO is assigned for flight shall be responsible for ensuring completion of an approved instrument examination prior to flight evaluation.

Additionally, naval aviators delineated in paragraph 13.1.1.1 shall:

c. Satisfactorily complete an instrument evaluation flight conducted by a designated military aviator or NFO (if authorized by individual aircraft NATOPS manual) in an aircraft or approved simulator. The conduct, content, and grading criteria of the flight shall be in accordance with the NATOPS Instrument Flight Manual.

Note

- The written examination must be completed with a grade of Qualified within 60 days prior to commencing the evaluation flight. The instrument evaluation flight may be combined with an aircraft NATOPS evaluation flight if all written examination requirements are satisfied prior to the flight.

- NFOs may at the discretion of their type commanders be required to complete an instrument flight evaluation. If an instrument flight evaluation is deemed necessary, it may be accomplished in conjunction with the NFO aircraft NATOPS evaluation flight. The written examination must be completed with a grade of Qualified prior to commencing the flight evaluation.

13.1.2.3 Extensions. The expiration date for instrument ratings/qualifications may be extended under the following conditions.

a. Commanding officers may extend the expiration date of instrument ratings/qualifications issued to naval aviators/NFOs that would otherwise expire during the period of a long deployment. The expiration date for the extension shall not be later than 90 days after return from deployment.

b. After thorough review, issuing authority may grant written extension not to exceed 6 months fr original issue or renewal of instrument ratings/qua. fications in those cases that so merit because of circumstances beyond the control of the individual. Such circumstances will normally be limited to hospitalization, temporary removal from flying status by competent authority, or assignment to a billet where certain flight requirements have been waived by CNO or CMC.

In both cases, extension letters shall be filed permanently with the instrument check form (OPNAV 3710/2) for which the extension is granted in section III, part E (instrument rating) of the NATOPS flight personnel training/qualification jacket. See paragraph A.2.3e.

13.1.2.4 Issuing Authority. The commanding officer or reporting senior, as appropriate, is the issuing authority for instrument ratings/qualifications to naval aviators and NFOs.

13.1.3 Composition and Functions of Instrument Flight Boards. Each station, squadron, wing, ship, detachment or equivalent, or higher authority as appropriate, shall establish an instrument flight board composed of designated military aviators and NFOs, as applicable. Commanding officers of squadrons who pilots are required to complete a formal instrumen course at designated instrument training squadrons need not comply with this requirement. It shall be the function of those boards to conduct instrument evaluations of pilots/NFOs in accordance with the provisions of this instruction. It is desired, insofar as possible, that members of instrument flight boards hold a special instrument rating. Where it is not feasible for an activity to establish an instrument flight board, arrangements shall be made with neighboring boards to conduct instrument evaluations. Pilots/NFOs on duty at isolated areas or at joint activities should normally obtain their evaluations from naval instrument flight boards. If this is not feasible, they may be evaluated by any U.S. military pilot holding a valid instrument rating.

13.2 REQUIREMENT FOR INSTRUMENT RATINGS

13.2.1 Standard Rating. Minimum requirements for a standard instrument rating are as follows:

a. Fifty hours of instrument pilot time under actual or simulated instrument conditions.

b. Successfully complete a NATOPS instrumen evaluation in accordance with the NATOPS Instrument Flight Manual.

c. Within the 6 months preceding the date of the instrument evaluation flight obtain:

(1) Six hours as pilot under actual or simulated instrument conditions

(2) Twelve final approaches under actual or simulated instrument conditions, six of which shall be precision approaches and six of which shall be nonprecision.

d. Within the 12 months preceding the date of the instrument evaluation flight:

(1) Twelve hours as pilot under actual or simulated instrument conditions

(2) A total of 18 final approaches under actual or simulated instrument conditions, 12 of which shall be precision and six of which shall be nonprecision.

e. Major flight simulator devices listed by CNO (N889F) may be utilized to meet one-half of the minimum instrument rating requirements.

f. CNATRA is authorized to issue an initial standard instrument pilot rating following successful completion of the naval air training command instrument training syllabus.

g. Renewal of an expired instrument rating for pilots returning to flying duty under provisions of paragraph 13.1.1.2 shall meet the requirements of paragraphs 13.2.1b and c.

13.2.2 Special Rating. Minimum requirements for special instrument ratings include all of the requirements for a standard instrument rating plus the following:

a. Five years of military and nonmilitary flying experience.

b. Two thousand hours of military and/or civil time as a certificated commercial/airline transport pilot.

c. One hundred hours of military actual instrument time.

d. A special instrument rating is recognition of a pilot's experience, demonstrated flight ability, and judgment. Its issuance shall be made accordingly. Fleet Marine Force commanding generals, fleet type commanders, COMNAVAIRESFOR, CG FOURTH MAW, CNATRA, or their delegated representatives may reduce the above minimum requirements. A special instrument rating may be issued to pilots who display exceptional judgment and proficiency in instrument flying procedures if the pilot has at least 3 years military and/or nonmilitary flying experience, has a total of 1,500 hours pilot/copilot time, and meets the other requirements for issuance of a special instrument rating enumerated above.

13.2.3 Failure To Meet Requirements

13.2.3.1 Action. The following action is directed for cases of failure to meet requirements:

a. Board Action — Unless reasons in the case are sound and valid, commanding officers shall direct a pilot who fails to meet the foregoing requirements to appear before a field naval aviator evaluation board in accordance with the current MILPERSMAN, article 3410300 or MCO P1000.6, as appropriate.

b. Command Action — Pilots who are required to qualify for an instrument rating and have not done so shall not be detached from an activity unless a written extension is forwarded to their next duty station or compliance with paragraph a above has been accomplished.

13.2.3.2 Restrictions on Instrument Ratings. Under no conditions shall instrument ratings be issued when the requirements of this chapter have not been met. The endorsement of instrument ratings to limit their applicability or use in any way is not authorized without specific approval of CNO or CMC.

13.2.3.3 Revoking of Instrument Ratings. Any commanding officer authorized to issue an instrument rating is also authorized to revoke the instrument rating of any pilot attached or assigned to his/her command for flying when, in the commanding officer's opinion, the pilot has displayed a lack of instrument flying proficiency.

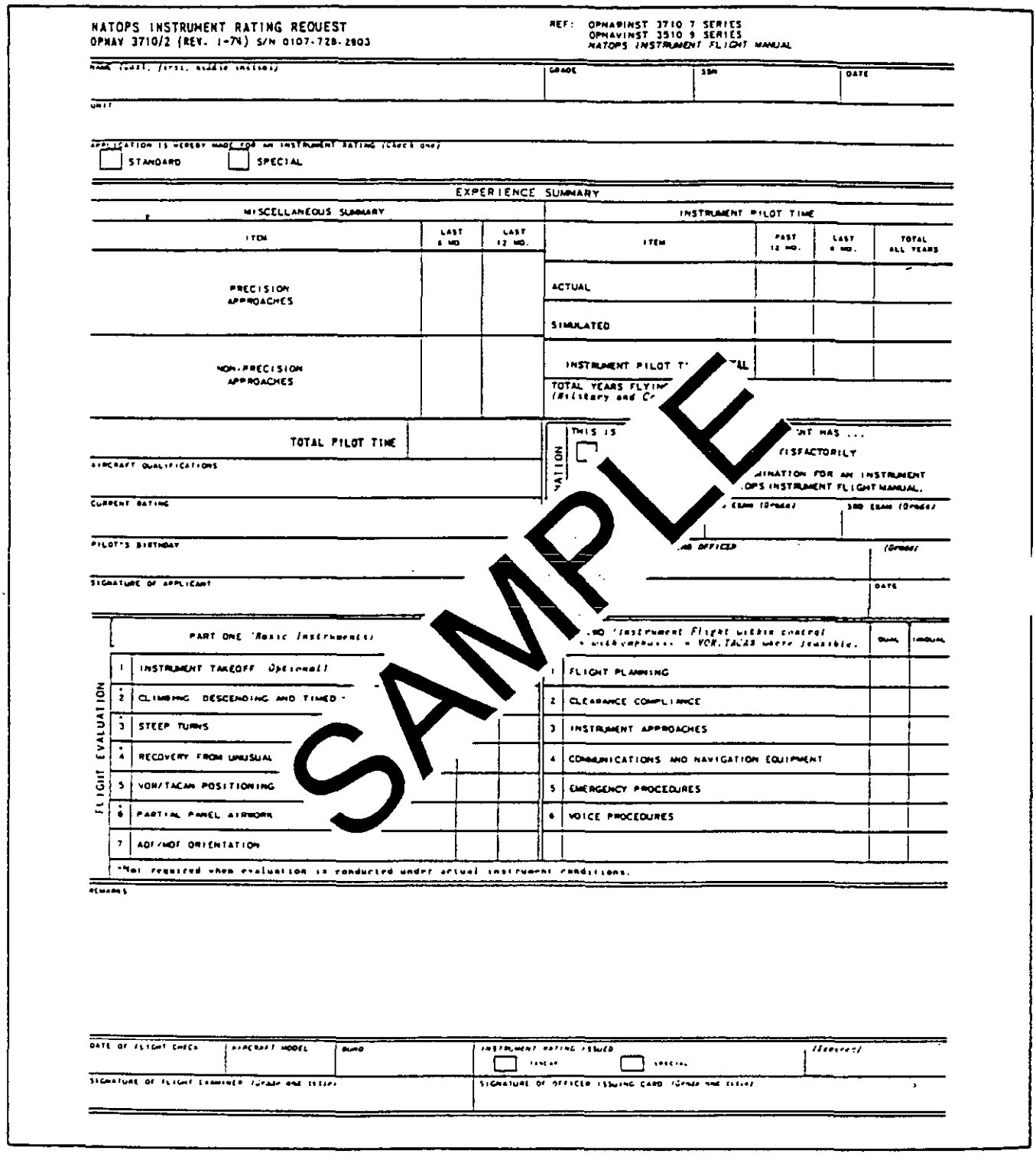
13.3 INSTRUMENT RATING FORMS

A pilot shall make application for an instrument rating by submitting a NATOPS instrument rating request (OPNAV 3710/2, Figure 13-1) in accordance with the NATOPS Instrument Flight Manual. The completed OPNAV 3710/2 shall constitute issuance of an instrument rating.

13.4 AIRCRAFT CONSIDERATIONS

Instrument ratings shall be valid in all aircraft in which the pilot is instrument qualified regardless of the model in which the check was flown. A pilot may be

considered to be instrument qualified in an aircraft when he/she has completed the evaluation as outlined in each respective NATOPS manual and has met the requirements for an instrument rating as outlined in this chapter. In aircraft for which there is no NATOPS guidance, 10 first pilot hours in model may be substituted as a minimum requirement.



NATOPS INSTRUMENT RATING REQUEST
OPNAV 3710/2 (REV. 1-74) S/N 0107-728-2803

REF: OPNAVINST 3710.7 SERIES
OPNAVINST 3510.9 SERIES
NATOPS INSTRUMENT FLIGHT MANUAL

NAME (LAST, FIRST, MIDDLE INITIAL) | GRADE | SSN | DATE

UNIT

APPLICATION IS HEREBY MADE FOR AN INSTRUMENT RATING (CHECK ONE)
☐ STANDARD ☐ SPECIAL

EXPERIENCE SUMMARY

MISCELLANEOUS SUMMARY

ITEM	LAST 6 MO	LAST 12 MO.
PRECISION APPROACHES		
NON-PRECISION APPROACHES		
TOTAL PILOT TIME		

INSTRUMENT PILOT TIME

ITEM	PAST 12 MO.	LAST 6 MO.	TOTAL ALL YEARS
ACTUAL			
SIMULATED			
INSTRUMENT PILOT T[illegible]AL			

TOTAL YEARS FLYING (Military and C[illegible])

AIRCRAFT QUALIFICATIONS

CURRENT RATING

PILOT'S BIRTHDAY

SIGNATURE OF APPLICANT

VATION — THIS IS ☐ [illegible]NT HAS ...
[illegible]ISFACTORILY
[illegible]INATION FOR AN INSTRUMENT
[illegible]OPS INSTRUMENT FLIGHT MANUAL.
[illegible] EXAM (Grade) | [illegible] EXAM (Grade)
[illegible] OFFICER (Grade)
DATE

FLIGHT EVALUATION

	PART ONE (Basic Instruments)			PART TWO (Instrument Flight Under Control [illegible] with emphasis on VOR, TACAN where feasible.)		
		DUAL	[illegible]		DUAL	[illegible]
1	INSTRUMENT TAKEOFF (Optional)			1 FLIGHT PLANNING		
*2	CLIMBING, DESCENDING AND TIMED			2 CLEARANCE COMPLIANCE		
*3	STEEP TURNS			3 INSTRUMENT APPROACHES		
*4	RECOVERY FROM UNUSUAL			4 COMMUNICATIONS AND NAVIGATION EQUIPMENT		
5	VOR/TACAN POSITIONING			5 EMERGENCY PROCEDURES		
*6	PARTIAL PANEL AIRWORK			6 VOICE PROCEDURES		
7	ADF/NDF ORIENTATION					

*Not required when evaluation is conducted under actual instrument conditions.

REMARKS

DATE OF FLIGHT CHECK | AIRCRAFT MODEL | BUNO

INSTRUMENT RATING ISSUED ☐ [illegible] ☐ SPECIAL | (Expires)

SIGNATURE OF FLIGHT EXAMINER (Grade and Title)

SIGNATURE OF OFFICER ISSUING CARD (Grade and Title)

SAMPLE

Figure 13-1. NATOPS Instrument Rating Request (OPNAV 3710/2)

APPENDIX A

NATOPS Flight Personnel Training and Qualification Jacket

A.1 INTRODUCTION

A.1.1 Purpose. To provide a consolidated record of the training status and readiness of flight personnel and serve as a repository for certain aviation records accumulated by flight crewmembers during active aviation tours.

A.1.2 Scope. Subject jacket is intended to provide commanding officers with pertinent data to assist in assignment, utilization, and training of individuals. Properly maintained, it presents a cumulative history and concise summary of qualifications. It is not a forum for evaluating the performance of an officer or enlisted aircrew member. The jacket will not become part of the individual's personnel records within BUPERS except as noted in paragraph A.1.6.

A.1.3 Responsibility. Responsibilities pertaining to custody of NATOPS flight personnel training qualification jackets are as follows:

a. Commanding officers shall ensure that custody and maintenance of qualification jackets are in accordance with provisions of this instruction.

b. Ensure that jackets are maintained for all assigned flight personnel.

c. Flight personnel, when flying with a unit other than the one that regularly maintains their jackets, shall ensure that the unit with which they are flying is provided temporary custody of the jacket.

A.1.4 Security. The jacket is "For Official Use Only" in accordance with SECNAVINST 5720.42. No information may be divulged from it, except to persons possessing a need to know. Only the individual and personnel designated in writing by the commanding officer may have access to qualification jackets. In accordance with SECNAVINSTs 5720.42 and 5211.5, attach OPNAV 5211/9, "Record of Disclosure," inside the front cover of the NATOPS jacket, when disclosure of information from the jacket is outside DOD.

A.1.5 Disposition. Upon detachment, the jacket will be reviewed, certified by the commanding officer or a designated representative, and given to the individual. In the event of death, the jacket will be handled in accordance with directives governing disposition of records.

A.1.6 Review. The individual's jacket will be periodically reviewed by the commanding officer or a designated representative to ensure accuracy and currency. The review shall be conducted:

a. Upon reporting to a unit

b. Annually (within 30 days of date of birth)

c. Upon major change in flight status.

A.1.7 Design. The jacket is composed of a cover, standard sectional and topical dividers, and pertinent documents and records. It is divided into four sections. Each section is divided into topical parts with appropriate titles.

A.1.8 Maintenance

a. The jacket shall be maintained in accordance with the provisions of this appendix.

b. No records or documents will be inserted that do not provide pertinent data concerning the aviation status of the individual.

c. Individuals will not insert or remove records without approval of the commanding officer.

A.1.9 Forms. OPNAV 3760/32 through OPNAV 3760/32H may be obtained through normal supply channels in accordance with NAVSUP PUB 2002.

A.2 ASSEMBLY AND MAINTENANCE

A.2.1 General

A. Part A shall contain the NATOPS flight personnel training/qualification jacket review and certification record. OPNAV 3760/32A (Figure A-1) shall be utilized.

b. Part B shall contain a copy of only the most recent PCS orders showing the current authority for flying status. Letters from enlisted aircrew indicating their volunteer flight status shall be filed in this section. Letters of suspension and/or revocation of flying status shall be filed in this part for permanent retention.

c. Part C shall contain the signed original of the current standard BUMED 6410/1 or 6410/2 (aeromedical grounding or clearance notices). Forms maintained include those covering annual flight physicals and most current up chits from any grounded period (the exception being a grounding notice that "expires automatically," in which case a clearance notice is not required). They will be retained until the succeeding year's annual flight physical clearance notice is received. Medical waivers shall be retained as long as they are in effect.

d. Part D shall contain a record of flight equipment issued. OPNAV 3760/32B (Figure A-2) shall be utilized.

A.2.2 Qualifications and Achievements

a. Part A shall contain a permanent record of all functional designations prescribed in Chapters 12 and 13 and specific NATOPS manuals. Examples of qualifications to be recorded on OPNAV 3760/32C (Figure A-3) are aircraft commander, helicopter, second pilot, maintenance functional check pilot, and NATOPS evaluator/instructor. To maintain a historical record, copies of designation letters containing designation dates and approving authority signature shall be maintained following OPNAV 3760/32C.

b. Part B shall contain a permanent record of all other designations not included in Part A above. Tactical-oriented and mission-oriented designation shall be recorded on OPNAV 3760/32D (Figure A-4). Designation letters may also be retained in this part.

A.2.3 Training

a. Part A shall contain a record of all form schools and courses attended. OPNAV 3760/32L (Figure A-5) shall be utilized. Regular squadron and ground training lectures will not be included. Part A, Section 3 shall also include a copy of the training command student summary and all FRS summaries for training completed after 1 January 1988. Summaries for training completed prior to this date are desired but not mandatory.

b. Part B shall contain a permanent record of NAWSTP, NAPTP, SERE, NITE Lab and annual egress training. OPNAV 3760/32F (Figure A-6) shall be utilized. Training course description and signature are required as documentation. Type of sensor (e.g., AN/AVS-6, CATEYES, FLIR, etc.) is also required for NITE Lab training documentation. Annual egress training conducted locally for other than ejection seat equipped aircraft shall be recorded on OPNAV 3760/32F. No further documentation is necessary or desired.

c. Part C shall contain a record of all examinations (on a 4.0 scale) pertinent to the individual's aviation qualifications. OPNAV 3760/ 32 (Figure A-7) shall be utilized. The most current open and closed bo exam or answer sheet, if appropriate shall be . cluded following OPNAV 3760/32.

d. Part D shall contain all NATOPS evaluation records (OPNAV 3710/7). (Effective from the date of this instruction, Marine Corps commands shall include a NATOPS evaluation form with each OPNAV 3710/7. Samples may be found in MCO P3500.14 and individual NATOPS manuals.)

e. Part E shall contain all instrument rating requests (OPNAV 3710/2 (revised January 1974)). If a waiver of instrument qualification has been granted, this section shall contain the waiver.

A.2.4 Flight Records

a. The Aviators Flight Log Book is the official document of pilot history. Copies of MIFARs for the current fiscal year should be maintained in Part A.

b. Part B shall contain a permanent record of all aircraft mishaps, flight violations involving a pilot cause factor, and FNAEB results. In addition to

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

OPNAV 3760/32A (4-81) SN 0107-LF-726-2120

SECTION IA – REVIEW AND CERTIFICATION RECORD

NAME (Last, first, middle initial)	SSN

1. This jacket shall be reviewed by the Commanding Officer or a designated representative as follows:

   a. Upon reporting to a unit.

   b. Annually, within 30 days of birthday.

   c. Upon major change in flight status.

2. This jacket shall be certified by the Commanding Officer or a designated representative upon detachment of the individual.

RECORDS OF REVIEW

DATE	SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE

DETACHMENT CERTIFICATION

UNIT	DATE	SIGNATURE	UNIT	DATE	SIGNATURE

Figure A-1. Review and Certification Board

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32B RECORD OF FLIGHT GEAR ISSUE

NAME:	RANK:	SSN:

ITEM	QTY	SIZE	DATE	DOC	A/C	COMMAND	SIGNATURE
BOOT, SAFETY, FLYER'S							
CHEMICAL/BIOLOGICAL PROTECTION ENSEMBLE							
COVERALLS, ANTI-G							
COVERALLS, SUMMER FLYING							
EXPOSURE SUIT, HOOD, MITTENS.							
GLASSES, SUN							
GLOVES, FLYING, SUMMER							
GLOVES, FLYING, COLD WX							
HELMET, FLIGHT							
HELMET BAG							

ACTION CODE (A/C):	O - Original Issue	P - Previous Issue	T - Turn In
	R - Replacement Issue	NR - No Replacement	S - Survey

Figure A-2. Flight Equipment Issue Record (Sheet 1 of 2)

OPNAV 3760/32B - continued

NAME:	RANK:	SSN:

ITEM	QTY	SIZE	DATE	DOC	A/C	COMMAND	SIGNATURE
JACKET, FLIGHT, LEATHER							
JACKET, SUMMER NYLON (CWU-36/P)							
JACKET, WINTER NYLON (CWU-45/P)							
KNIFE & SHEATH							
LIFERAFT, INDIVIDUAL BACKPACK							
PARACHUTE, TORSO HARNESS ASSEMBLY							
PARACHUTE BAG							
SHROUD CUTTER							
SPECTACLES, LASER PROTECTION							

WHEN REPLACING FLIGHT CLOTHING RECORD, CARRY FORWARD LAST ENTRY FOR EACH ITEM

THE PERSON LISTED ON THIS FORM IS AUTHORIZED TO REQUISITION FLIGHT CLOTHING IN ACCORDANCE WITH THE NAVSUP MANUAL, VOL. 2.	SIGNATURE OF C.O. OR AUTHORIZED DEPUTY

Figure A-2. Flight Equipment Issue Record (Sheet 2 of 2)

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32C (4-81) SN 0107-LF-736-2140

SECTION IIA – FLIGHT PERSONNEL DESIGNATION RECORD

NAME (Last, first, middle initial) | SSN

DATE	DESIGNATION	MODEL	UNIT	PROMULGATION BY	VERIFIED

Figure A-3. Flight Personnel Designation Record

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32D (Rev 4-90) S/N 0107-LF-009-7500

SECTION IIB – MISSION QUALIFICATION RECORD

NAME *(Last, first, middle initial)* | SSN

EFFECTIVE DATE	TYPE AIRCRAFT	MISSION QUALIFICATION	UNIT	REMARKS

Figure A-4. Mission Qualification Record

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

OPNAV 3760/32E (Rev 4-90) S/N 0107-LF-009-7600

SECTION IIIA – SCHOOL/COURSE ATTENDANCE RECORD

NAME *(Last, first, middle)* | SSN

RECORD ALL SPECIALIZED, FORMAL AVIATION SCHOOLS, INCLUDING:

UNDERGRADUATE PILOT/ NFO
FRS SYLLABI
FIRE FIGHTING
FASOTRAGRP SYLLABI
WEAPONS SYSTEMS
FRAMP
MAINTENANCE (3M) COURSES

SCHOOL/COURSE	DATES ATTENDED	PASS/FAIL/SCORE	UNIT	REMARKS	VERIFIED BY

Figure A-5. School/Course Attendance Record

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32F (Rev 4-90) S/N 0107-LF-009-7700

SECTION IIIB – OPERATIONAL PHYSIOLOGY & SURVIVAL TRAINING

NAME (*Last, first, middle initial*)	RANK/RATE	SSN

COURSE CATEGORY	DATE	GRADE	UNIT	SIGNATURE	COURSE CATEGORY	DATE	GRADE	UNIT	SIGNATURE

Figure A-6. Operational Physiology and Survival Training (Sheet 1 of 2)

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32F (Rev 4-90) S/N 0107-LF-009-7700

SECTION IIIB – OPERATIONAL PHYSIOLOGY & SURVIVAL TRAINING

NAME *(Last, first, middle initial)*	RANK/RATE	SSN

COURSE CATEGORY	TYPE OF TRAINING											
	AVIATION PHYSIOLOGY			EMERGENCY EGRESS			WATER SURVIVAL			LAND SURVIVAL, DWEST, SERE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		
	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT	DATE	GRADE	UNIT
	SIGNATURE			SIGNATURE			SIGNATURE			SIGNATURE		

TRAINING ACTIVITIES

1. Pensacola, FL	8. Barbers Point, HI	15. Brunswick, ME
2. Miramar, CA	9. Cecil Field, FL	16. FASOTRAGRUPAC
3. Norfolk, VA	10. Cherry Point, NC	17. FASOTRAGRULANT
4. Corpus Christi, TX	11. Whidbey Island, WA	18. MCAS New River, NC
5. Lemoore, CA	12. Beaufort, SC	19. Okinawa
6. El Toro, CA	13. Point Mugu, CA	20. Other (List)
7. Jacksonville, FL	14. Patuxent River, MD	21.

Figure A-6. Operational Physiology and Survival Training (Sheet 2 of 2)

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32G (Rev 4-90) S/N 0107-LF-009-7800

SECTION IIIC – EXAMINATION RECORD

NAME (Last, first, middle initial) | SSN

NATOPS EXAMS

OPEN BOOK				CLOSED BOOK			
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	PASS/FAIL	GRADED BY

INSTRUMENT EXAM				COURSE RULES		OTHER EXAMS				
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	TITLE	DATE	GRADE	PASS/FAIL	GRADED BY

Figure A-7. Examination Record

those entries authorized by paragraph 10.5.2.8, the FNAEB entry shall consist of the date of the FNAEB and comments by the Commanding Officer. The Commanding Officer may not delegate this responsibility. OPNAV 3760/32H (Figure A-8) shall be utilized.

A.2.5 Procurement

a. The basic jacket with dividers, OPNAV 3760/32 (Rev. 4-81), may be ordered using S/N 0107-LF-736-2112. Existing jackets, OPNAV 3760/32 (Rev. 11-73), may be adapted to this instruction by inserting forms listed in subparagraph b.

b. Forms may be procured using the following information:

(1) Review and Certification Record, OPNAV 3760/32A, S/N 0107-LF-736-2120

(2) Record of Flight Equipment Issue, OPNAV 3760/32B, S/N 0107-LF-736-2130

(3) Flight Personnel Designation Record, OPNAV 3760/32C, S/N 0107-LF-736-2140

(4) Mission Qualification Record, OPNAV 3760/32D, S/N 0107-LF-009-7500

(5) School/Course Attendance Record, OPNAV 3760/32E, S/N 0107-LF-009-7600

(6) Operational Physiology and Survival Training Record, OPNAV 3760/32F, S/N 0107-LF-009-7700

(7) Examination Record, OPNAV 3760/32G, S/N 0107-LF-009-7800

(8) Mishap/Flight Violation Record, OPNAV 3760/32H, S/N 0107-LF-736-2190

(9) Flight Jacket Divider Tabs, OPNAV 3760/32I, S/N 0107-LF-000-7500.

NATOPS PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32H (4-81) SN 0107-LF-738-2190

SECTION IVB – MISHAP/FLIGHT VIOLATION RECORD

NAME (Last, first, middle initial)			SSN
DATE	UNIT	MISHAP DESCRIPTION	COMMANDING OFFICER'S SIGNATURE

Figure A-8. Mishap/Flight Violation Record

NATOPS EVALUATION REPORT

OPNAV 3710/7 (4-90) S/N 0107-LF-009-8000 REPORT SYMBOL OPNAV 3"

NAME (Last, first, initial)	GRADE	SERVICE NUMBER
SQUADRON/UNIT	AIRCRAFT MODEL	CREW POSITION
TOTAL PILOT/FLIGHT HOURS	TOTAL HOURS IN MODEL	DATE OF LAST EVALUATION

NATOPS EVALUATION

REQUIREMENT	DATE COMPLETED	GRADE		
		Q	CQ	U
OPEN BOOK EXAMINATION				
CLOSED BOOK EXAMINATION				
ORAL EXAMINATION				
*EVALUATION FLIGHT				
FLIGHT DURATION	AIRCRAFT BUNO	OVERALL FINAL GRADE		

REMARKS OF EVALUATOR/INSTRUCTOR

☐ CHECK IF CONTINUED ON REVERSE SIDE

GRADE, NAME OF EVALUATOR/INSTRUCTOR	SIGNATURE	DATE
GRADE, NAME OF EVALUEE	SIGNATURE	DATE

REMARKS OF UNIT COMMANDER

RANK, NAME OF UNIT COMMANDER	SIGNATURE	DATE

*WST, OFT, COT, or cockpit check in accordance with OPNAVINST 3710.7 (effective edition)

Figure A-9. NATOPS Evaluation Report

APPENDIX B

Aircraft Visual Identification System

B.1 GENERAL

This appendix delineates the visual identification system for naval aircraft and provides for assignment of aircraft markings and side numbers that identify aircraft of one unit from those of another. The system provides a means of rapid identification of Navy and Marine aircraft that is simple, flexible, and readily adaptable to expansion in the event of mobilization. Requests for changes or recommendations for assignment of identification letters to new or activated reserve units issued aircraft for custody shall be made to CNO (N889E) via the chain of command.

B.1.1 Unit Identification. CNO will assign unit identification letters for aircraft of air wings/groups and squadrons in accordance with the following guidelines.

B.1.1.1 Present Assignments. Identification letters presently assigned will be retained permanently regardless of transfers of units between fleets.

B.1.1.2 Future Assignments. Future assignments will consist of either a single letter (CNATRA) or a combination of any two letters or numbers indicated below:

Command	First Character	Second Character
NAVAIRLANT	A through M	A through Z
NAVAIRPAC	N through Z	A through Z
CNATRA	A through G	None

Note

Upon decommissioning, the identification letter will revert to CNO for future use.

B.1.1.3 Additional Identification Characters. Expansion of this system will be accomplished by assigning the numerals 2 through 9 as the first character in place of a letter.

B.1.1.4 Exceptions. The letters I and O are too easily confused with numerals and shall not be used.

B.1.1.5 Published Listing. Assigned visual identification letters/numbers are contained in the Naval Aeronautical Organization (OPNAV notice 5400).

B.1.1.6 Other Aircraft. Aircraft assigned to units other than those provided for above shall be identified by spelling out the name of the station or unit (i.e., NORFOLK, FORRESTAL, EL TORO, etc.).

B.1.2 Aircraft Side Numbers. Aircraft side numbers are assigned by force, wing, group, or squadron commanders, as appropriate. To achieve correlation between the electronic (IFF/SIF) and visual identification of each aircraft, combat and combat support aircraft shall be numbered using octal numbers (i.e., only the numerals 0 through 7).

B.1.2.1 Air Wings (CV) and Associated Squadrons. Appropriate commander shall use the following for selection of squadron aircraft identification side numbers and colors:

Squadron	Side Number	Color
1st VF Squadron	100 to 114	Insignia Red
2nd VF Squadron or 3rd VFA Squadron	200 to 214	Orange-Yellow
1st VFA Squadron	300 to 315	Light Blue
2nd VFA Squadron	400 to 415	International Orange
VAQ	500 to 517	Maroon
VAW	600 to 603	Insignia Blue
HS/HC	610 to 617	Magenta
VS	700 to 713	Dark Green

B.1.2.3 Naval Air Training Command Squadrons and Units. Squadrons and units of CNATRA shall number their aircraft as directed by the Chief of Naval Air Training.

B.1.2.4 Fleet Replacement Squadrons. Fleet replacement squadrons with aircraft employing the automatic precision approach and landing system (PALS) shall number their aircraft with three-digit octal numerals.

B.1.2.5 Other Units. Activities and units other than those included above shall number their aircraft by utilizing the last three digits of the bureau number.

B.1.3 Marking of Aircraft. The provisions of the current version of Military Specification for Insignia and Markings for Naval Aircraft (MIL-STD-2161A (AS)) apply in the implementation of the visual identification system.

APPENDIX C

Selected Aviation Instructions

C.1 SELECTED AVIATION INSTRUCTIONS (LISTED IN NUMERICAL SEQUENCE)

NUMBER	SOURCE	TITLE
P1000.6F (NOTAL)	MCO	ACTS Manual
1000.16H (NOTAL)	OPNAV	Manual of Navy Total Force Manpower Policies and Procedures
1326.4B (NOTAL)	BUPERS	Administration of Enlisted Flight Orders/Flight Pay
1542.7A	OPNAV	Aircrew Coordination Training Program
1542.4A (NOTAL)	OPNAV	Naval Aviator/Flight Surgeon (NA/FS) Program
3130.6A (NOTAL)	OPNAV	Naval Search & Rescue (SAR) Standardization Program
3140.14D (NOTAL)	OCEANCOM	Procedures Governing Flight Weather Briefings and Preparing DD Form 175-1 and U.S. Navy Flight Forecast Folder
P3500.14E (NOTAL)	MCO	Aviation Training and Readiness Manual Vol. 1
3710.1 (NOTAL)	COMNAVAIRSYSCOM	Contractor's Flight and Ground Operations
3710.4	MCO	Waivers to DIFDEN
3722.16C (NOTAL)	OPNAV	United States Standard for Terminal Instrument Procedures (TERPS)
3722.30C (NOTAL)	OPNAV	Security Control of Air Traffic and Air Navigation Aids (SCATANA)
3722.33C (NOTAL)	OPNAV	Special Military Operations (FAA Order 7610.4)
3750.6Q (NOTAL)	OPNAV	Naval Aviation Safety Program
3770.4A (NOTAL)	OPNAV	Use of Airspace by U.S. Military Aircraft and Firing Over the High Seas
4630.25C (NOTAL)	OPNAV	Air Transportation Eligibility
4631.2C (NOTAL)	OPNAV	Management of Department of the Navy (DON) Airlift Assets

NUMBER	SOURCE	TITLE
4790.2F (NOTAL)	OPNAV	The Naval Aviation Maintenance Program (NAMP)
5100.12B	SPAWAR	Navy Laser Hazards Control Program
5211.5D	SECNAV	Department of the Navy Privacy Act (PA) Program
5212.5C	SECNAV	
5370.7A	SECNAV	Military Whistleblower Protection
5370.8	SECNAV	Military Reprisal Investigation
5420.1G	OPNAV	Field Naval Aviator Evaluation Board (FNAEB)
5442.2 (NOTAL)	OPNAV	Aircraft Inventory Reporting System (AIRS)
5510.34 (NOTAL)	SECNAV	Manual for the Disclosure of Department of the Navy Military Information to Foreign Governments and International Organizations
5720.42E	SECNAV	Department of the Navy Freedom of Information Act (FOIA)
5720.44A	SECNAV	Department of the Navy Public Affairs Policy and Regulations
5750.12F (NOTAL)	OPNAV	Command History
5800.7 (NOTAL)	JAG	Manual of the Judge Advocate General
5820.7B	SECNAV	Cooperation with Civilian Law Enforcement Officials
6110.1D	OPNAV	Physical Readiness Program
6320.24	SECNAV	Mental Health Evaluation of Members of the Armed Forces
6410.5A	BUMED	Medical Monitoring of Flight Personnel in Locations Where Officers With Aviation Medicine Training Are Not Available
7220.29 (NOTAL)	BUPERS	Aviation Career Incentive Pay
13034.1A	COMNAVAIRSYSCOM	Flight Clearance Policy for Manned Air Vehicles
00-80T-114	COMNAVAIRSYSCOM	Air Traffic Control Facilities Manual

APPENDIX D

Total Mission Requirement Codes

D.1 NAVAL AIRCRAFT/SIMULATOR FLIGHT CLASSIFICATION SYSTEM

D.1.1 Primary Source. The TMR codes set forth in this appendix supersede the flight purpose codes (FPCs) of previous editions. TMR codes cover a full range of flight operations from training (including simulators) to combat. The TMR code is developed from a three-character code matrix with the first character representing the flight purpose, the second character representing the general purpose, and the third character representing the specific purpose. The definition of assigned TMR codes is outlined below. This instruction is the primary source of TMR codes and all personnel using these codes shall be made aware of the existence of this source. The naval aircraft flight record, OPNAV 3710/4, provides space to document as many as three missions and their associated times for one flight.

D.1.2 Deviation. No variations from the classifications specified herein are to be made without CNO approval.

D.2 APPLICABILITY OF THE TOTAL MISSION REQUIREMENT CODES

TMR codes apply to all flight personnel, aircraft, and approved simulators. They should reflect the primary purpose for the flight regardless of varying purposes particular individuals have for being aboard.

D.3 CLASSIFICATION OF TOTAL MISSION REQUIREMENT CODES

D.3.1 Purpose of Flight. The purpose of flight by naval aviators/naval aircraft or approved simulators shall be described by a three-character code in the following sequence:

a. The first position of the TMR is the FPC and denotes the type of operation.

(1) Training — Flights conducted for the purpose of training (both individual and as a crew) to maintain or improve the readiness of the activity to perform its assigned mission.

(2) Support Services — Flights conducted in support of an assigned mission including tests, logistics, search and rescue, troop transports, etc., either independently or as part of a squadron function.

(3) Operations — Navy flights conducted in support of operational tasking not specifically designated as contingency operations.

(4) FMF Operations — Marine flights conducted as part of an exercise while deployed with a battle group or task force.

(5) Contingency Flights — Flights conducted in support of contingency operations as delineated by the type commander.

(6) Combat Flights — Combat flights shall be used only for aircraft and by units specifically designated by competent authority as being in "combat status." This rule shall be strictly followed even though a combatant incident did occur or was likely to occur on the flight (i.e., fired upon by unfriendly forces, search for or detection of unfriendly submarine, flight over or near areas where it is prudent to anticipate hostile action against the aircraft, etc.).

(7) Exercise Flights — Flights conducted as part of an authorized fleet exercise as designated by the battle group or type commander.

b. The second position of the TMR is the GPC and denotes the general purpose of the flight. GPCs N and O will be used to document aborts and/or cancellations and may be used with FPCs 1 through 7.

(1) FPC 1 — only GPCs of A through I, P, or R can be used.

(2) FPC 2 must be used with GPCs of J through R.

(3) FPCs 3 through 7 must be used with GPCs S through Z.

c. The third position of the TMR is the specific purpose code (SPC) and denotes the specific purpose of the flight.

D.4 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS A THROUGH I (TRAINING FLIGHTS)

D.4.1 General Purpose Codes. GPCs for training flights (A through I) are used as follows:

a. Use code A if the flight is for training, exercises, or simulated operations conducted by a fleet/Fleet Marine Force (FMF)/air reserve squadron or unit (nontraining command) to which the pilot is attached when such flight maintains or advances the ability of the squadron or unit to perform the mission for which organized. May be used for flights by training command personnel that do not properly fall under codes C through I.

b. Use code B if flight is for syllabus training of a designated naval aviator undergoing formal instructor training (IUT).

c. Use code C within air commands for pilots assigned thereto when locally imposed requirements for a particular kind of flying are necessary to prepare for satisfactory performance within the command.

Note

When a pilot flies with a squadron or other unit whose primary mission is carried out by the flight of aircraft, he/she may consider himself/herself an integral part of that unit. If he/she makes a flight that maintains or advances the ability or readiness of the unit to perform its assigned mission, the purpose of the flight is unit training (code A), and the effect on individual proficiency is irrelevant.

d. Use code D, E, F, or G for flights by Navy and Marine Corps aircrew attached to units of CNATRA (excluding reserves) and Fleet Replacement Squadrons as required or provided by training command training syllabus.

(1) Use code D if flight is for syllabus training of a student naval aviator undergoing formal traini to become a designated naval aviator.

(2) Use code E if flight is for syllabus training of a designated naval aviator undergoing formal refresher training.

(3) Use code F if flight is for syllabus training of a designated naval aviator when the purpose of the flight does not support a formal training syllabus (i.e., standardization evaluations, instrument checks, or attaining minimum annual flying requirements).

(4) Use code G if flight is for special training (including crew training) for completion of a nonpilot training syllabus (i.e., NFO, AI, midshipmen, student flight surgeon training).

e. Use code H or I for training of nonnaval personnel.

(1) Use code H if flight is for the purpose of training, familiarization, or proficiency of personnel of other services of the United States (i.e., Air Force, Army, Coast Guard).

(2) Use code I if flight is for the purpose of tra ing, familiarization, or proficiency of personnel o foreign countries.

D.4.2 Specific Purpose Codes. SPCs to be used with GPCs A through I are listed below. Codes A through I must always be followed by one of the number codes listed below, selecting the code denoting the primary type of training (if syllabus flight, the most advanced requirement being met; if nonsyllabus flight, that on which most effort was spent). In any case, the character following codes A through I shall always refer to the following list:

1 — Fundamentals — Familiarization, aerobatics, formation, cross-country, navigation, etc.

2 — Instrument — General instrument or all-weather, when principal objective of flight.

3 — Field carrier landing practice.

4 — Carrier qualification.

5 — Transition — Jet, VP, VR, helicopter, etc.

6 — Air combat — Intercept, fighter escort, air-to-air gunnery, etc.

7 — Attack — Surface targets; bomb, rocket, torpedo, etc.; non-ASW.

8 — Antisubmarine — Patrol, search, escort, attack, minelaying, etc.

9 — Special equipment — AEW, ECM, AMCM, photo, etc.

0 — Unsatisfactory syllabus.

D.5 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS J THROUGH R (SERVICE FLIGHTS)

D.5.1 SPCs To Be Used With GPCs J and K for Service Flights

J1 — Those ferry flights funded from the fleet ferry fund managed by the respective TYCOM. Reporting custodians shall ascertain from the controlling custodian under what circumstances the flight categories apply.

J2 — Those ferry flights funded from other sources (i.e., unit operating budgets, allotments, etc.).

K1 — Those functional checkflights funded from the fleet ferry fund managed by the respective TYCOM. Reporting custodians shall ascertain from the controlling custodian under what circumstances the flight categories apply.

K2 — Those functional checkflights funded from other sources (i.e., unit operating budgets, allotments, etc.).

K3 — Functional checkflight observer.

K4 — Bogey in support of other aircraft.

K5 — Bogey in support of ground units.

K6 — Bogey in support of ship operations.

K7 — Flying qualities or performance evaluation of aircraft.

K8 — Accelerated service test or propulsion system evaluation.

K9 — Navigation, weapons, or electronic warfare evaluation.

K0 — Carrier suitability or dynamic interface evaluation.

D.5.2 GPCs L, M, N, and O for Service Flights

a. Code L (Experimental/Evaluation) — Experimental, developmental, or evaluation flights of aircraft, its equipment, or an individual (i.e., NATOPS check).

L1 — Operational test and evaluation (OT&E).

L2 — Operational readiness inspection (ORI).

L3 — Instrument check.

L4 — NATOPS check.

L5 — Instructor standardization, test pilot training, or qualification evaluation.

L6 — Special weapons evaluation.

L7 — Ordnance separation, conventional, or nuclear weapon evaluation.

L8 — Drone support or target towing.

L9 — Aircraft or survival system evaluation.

L0 — Project support or other.

b. Code M (Logistics Support) — Use code M if flight is for the purpose of logistics support as follows:

M1 — MAG/CAG commitment: A logistics flight in support of the MAG/CAG.

M2 — MAW/functional wing commitment: A logistics flight scheduled for support of the wing.

M3 — NAS/MCAS commitment: A logistics flight in support of the air station.

M4 — FMF/CINC commitment: Flights flown in support of FMF/CINC units.

M5 — CMC/CNO commitment: Flights flown in support of CMC/CNO schools or units.

M6 — TYCOM/division commitment: Flights flown in support of the type commander or of a Marine division.

c. Code N (Maintenance) — Use code N to document aborts or cancellations for maintenance reasons.

N1 — Engine or fuel system.

N2 — Hydraulics, flight controls, or airframe.

N3 — Avionics, communication.

N4 — Avionics, NAVAID.

N5 — Avionics, radar/systems.

N6 — Avionics, electronics/instruments.

N7 — Ordnance system.

N8 — Wingman's aircraft down.

N9 — Support equipment.

N0 — Safety of flight (initiated by higher authority, usually by message).

d. Code O (Operations) — Use code O to document aborts or cancellations initiated by operations.

O1 — Weather.

O2 — Mission canceled by higher authority.

O3 — Mission canceled by supported or requesting unit.

O4 — Targets or range not available.

O5 — Required airfield services or navigational facilities not available (tacan, carrier, mirror, etc.).

O6 — Controlled airspace not available.

O7 — Required crewman incapacitated/ unavailable.

O8 — Aircraft accident.

O9 — Mission canceled by projects.

D.5.3 SPCs Used With GPC P. SPCs to be used with GPC P for all search and/or rescue (includes any flight, scheduled or unscheduled, in support of a search and/or rescue effort) or medical evacuation (includes any flight, scheduled or unscheduled, providing evacuation or other transport of hospitalized and/or medical stabilized personnel) flights are listed as follows:

P1 — Search and/or rescue flight conducted over water in support of military personnel.

P2 — Search and/or rescue flight conducted over land in support of military personnel.

P3 — Search and/or rescue flight conducted over water in support of non-DOD personnel.

P4 — Search and/or rescue flight conducted over land in support of non-DOD personnel.

P5 — Medical evacuation flown in support of military personnel.

P6 — Medical evacuation flown in support of non-DOD personnel.

P7 — Search and/or rescue flight into, out of, or over an area where enemy fire is received or can reasonably be expected.

P8 — Search and/or rescue flight into, out of, or over an area over water where enemy fire is received or can reasonably be expected.

P9 — Search and/or rescue flight into, out of, or over an area over land where enemy fire is received or can reasonably be expected.

P0 — Search and/or rescue training.

D.5.4 SPCs Used With GPC Q. SPCs to be used with GPC Q for miscellaneous nontraining service flights are listed as follows:

Q1 — Aerological (including combat weather reconnaissance).

Q2 — Noncombat patrol or search (other than survivor search, rescue, weather).

Q3 — Noncombat photography or radar mapping.

Q4 — Air shows and demonstrations not classified as tactical exercises.

Q5 — Noncombat, nontraining flights not elsewhere classified.

Q6 — Noncombat, nontraining air refueling flights.

Q7 — AEW flights (carrier-based or land-based) in support of either fleet tactical exercises or fleet operations.

Q8 — Pathfinder flights.

Q9 — Drug interdiction flights.

D.5.5 SPCs Used With GPC R. SPCs to be used with GPC R for transport/troop support are as follows:

a. Logistics transport flights include transportation of military or civilian personnel (other than at points of contact with enemy or in training exercises) as incident to change in location of duty or civil employment or to the transfer of entire units as well as transport of cargo or mail (including guard mail with or without couriers) for other than troop support purposes. If the flight is required for any of the foregoing uses, it is a logistics transport flight even if it also served an administrative transport purpose.

R1 — Regularly scheduled flight for the purpose of transporting cargo, personnel (except hospitalized patients), or mail, as set forth above, whether anything was transported or not.

R2 — Special flight, not regularly scheduled, to transport cargo, personnel (except hospitalized patients), or mail, as set forth above.

b. Administrative transport flights include transportation of military or civilian personnel for inspection, conference, instruction, or other official business involving no PCS, and for other authorized purposes of a similar nature, whether or not under travel or temporary duty orders.

R3 — Special flight, not regularly scheduled, to provide administrative transport for the pilot or other persons aboard, and that would not be made were it not for the administrative purpose alone.

c. Troop support flights include transportation of troops and other personnel (including battle casualties) to or from points of contact with enemy as well as rescue of personnel or transport of liaison personnel to or from engaged units. Transport of cargo under equivalent circumstances also falls in this specific purpose category.

R4 — Troop lift into, out of, or over an area where enemy fire is received or can reasonably be expected.

R5 — Liaison flight into, out of, or over an area where enemy fire is received or can reasonably be expected.

R6 — Logistics flight into, out of, or over an area where enemy fire is received or can reasonably be expected.

D.6 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS S THROUGH Z (COMBAT FLIGHTS)

a. GPCs S through Z will be used with FPCs 3 through 7 (noted in paragraph D3). When in "combat status," FPC 6 will be used with GPCs S through Z and will be the only TMR code entered for the flight.

b. SPCs to be used with GPC S for attacks on ground or surface targets designated by air support control:

S1 — Targets assigned before takeoff.

S2 — Targets assigned after takeoff.

S3 — Provision of illumination for attack of targets.

S9 — Escort or cover for above (VF or VA not assigned to attack).

c. SPCs to be used with GPC T for attacks on ground or surface targets (excluding submarine and aircraft) not designated by air support control:

T1 — Targets assigned before takeoff.

T3 — Provision of illumination for attack of targets.

T4 — Flak suppression.

T5 — Surface-to-air missile suppression.

T6 — Minelaying (all types).

T7 — Aerial refueling tanker supporting combat operations.

T8 — ECM support for attack operations against ground or surface targets.

T9 — Escort to cover for above (VF or VA not assigned to attack).

d. SPCs to be used with GPC U for antiair warfare offensive missions (primary objective aircraft; any other target secondary):

U1 — Fighter sweeps, intruder missions, night airfield heckling.

U2 — Combat air patrol over enemy airfields or other targets.

U3 — Offensive diversion and deception missions (other than attack sweep or intruder).

U4 — ECM support for attack operations against aircraft targets.

U5 — AMCM mine neutralization/mine sweep.

U8 — Escort or cover of Air Force bombers.

U9 — Escort or cover of transport aircraft.

e. SPCs to be used with GPC V for reconnaissance missions (except armed reconnaissance and ASW search):

V1 — Photographic reconnaissance.

V2 — Radar and ECM reconnaissance, radar mapping, etc.

V3 — Gunfire spotting, air support controller, and other visual reconnaissance of enemy areas. Exclude weather (Q1) and survivor search (P).

V4 — AMCM mine search/mine hunting.

V9 — Escort or cover for reconnaissance aircraft.

f. SPCs to be used with GPC W for air defense of own air base (carrier force or land base) from which aircraft departs:

W1 — AEW or airborne CIC and its escort or cover.

W2 — Combat air patrol, local or advanced.

W7 — Intercept (scramble).

g. SPCs to be used with GPC X for air defense of other forces or bases:

X1 — AEW or airborne CIC and its escort or cover.

X2 — Special combat air patrol to protect radar picket or aircraft.

X7 — Intercept (scramble).

h. SPCs to be used with GPC Y for offensive ASW missions:

Y1 — Routine sector or area search.

Y2 — Barrier patrol.

Y3 — Offensive search.

Y4 — Holddown of located submarine.

Y5 — Attack on located submarine.

Y6 — Locate and attack submarine.

Y9 — Attack submarine facilities (including operational bases, shipyard, or other logistical facilities, etc.).

i. SPCs to be used with GPC Z for defensive ASW missions:

Z1 — Protection of own force underway (by aircraft based on ships of same force).

Z2 — Escort of vessels not in own force (by ship-based or land-based aircraft).

Z4 — Defensive patrol of harbor or other limited area.

Note

Generally, the distinction between offensive ASW (Y codes) and defensive ASW (Z codes) is the primary mission of the force involved. If it is not primarily an ASW force, the ASW conducted to protect itself from attack by submarine is defensive ASW. But if it is primarily an ASW force (primary mission is ASW), all the ASW it conducts is offensive, including ASW conducted to protect itself.

D.7 CURRENTLY ASSIGNED TOTAL MISSION REQUIREMENT CODES

The currently assigned TMR codes are listed below with the description that will be displayed on the NAVFLIRS monthly reports.

TMR CODE	DESCRIPTION
1A1	TRNG SYL/EXC F/F/N
1A2	TRNG SYL/EXC INST
1A3	TRNG SYL/EXC FCLP/CAL
1A4	TRNG SYL/EXC CQ
1A5	TRNG SYL/EXC TRANS
1A6	TRNG SYL/EXC AIR CMBT
1A7	TRNG SYL/EXC ATCK
1A8	TRNG SYL/EXC ASW
1A9	TRNG SYL/EXC SP EQUIP
1A0	TRNG SYL/EXC UNSAT FLT
1B1	TRNG IUT F/F/N
1B2	TRNG IUT INST
1B3	TRNG IUT FCLP/CAL
1B4	TRNG IUT CQ
1B5	TRNG IUT TRANS
1B6	TRNG IUT AIR CMBT
1B7	TRNG IUT ATCK
1B8	TRNG IUT ASW
1B9	TRNG IUT SP EQUIP
1B0	TRNG IUT UNSAT FLT
1C1	TRNG NAV F/F/N
1C2	TRNG NAV INST
1C3	TRNG NAV FCLP/CAL
1C4	TRNG NAV CQ
1C5	TRNG NAV TRANS
1C6	TRNG NAV AIR CMBT
1C7	TRNG NAV ATCK
1C8	TRNG NAV ASW
1C9	TRNG NAV SP EQUIP
1C0	TRNG NAV UNSAT FLT
1D1	TRNG STU/AV F/F/N
1D2	TRNG STU/AV INST
1D3	TRNG STU/AV FCLP/CAL
1D4	TRNG STU/AV CQ
1D5	TRNG STU/AV TRANS
1D6	TRNG STU/AV AIR CMBT
1D7	TRNG STU/AV ATCK
1D8	TRNG STU/AV ASW
1D9	TRNG STU/AV SP EQUIP
1D0	TRNG STU/AV UNSAT FLT
1E1	TRNG NAV REF SYL F/F/N
1E2	TRNG NAV REF SYL INST
1E3	TRNG NAV REF SYL FCLP/CAL
1E4	TRNG NAV REF SYL CQ
1E5	TRNG NAV REF SYL TRANS
1E6	TRNG NAV REF SYL AIR CMBT
1E7	TRNG NAV REF SYL ATCK
1E8	TRNG NAV REF SYL ASW
1E9	TRNG NAV REF SYL SP EQUIP
1E0	TRNG NAV REF SYL UNSAT FLT
1F1	TRNG NAV N-SYL F/F/N
1F2	TRNG NAV N-SYL INST
1F3	TRNG NAV N-SYL FCLP/CAL
1F4	TRNG NAV N-SYL CQ
1F5	TRNG NAV N-SYL TRANS
1F6	TRNG NAV N-SYL AIR CMBT
1F7	TRNG NAV N-SYL ATCK
1F8	TRNG NAV N-SYL ASW
1F9	TRNG NAV N-SYL SP EQUIP
1F0	TRNG NAV N-SYL UNSAT FLT
1G1	TRNG NFO N-SYL F/F/N
1G2	TRNG NFO N-SYL INST
1G3	TRNG NFO N-SYL FCLP/CAL
1G4	TRNG NFO N-SYL CQ
1G5	TRNG NFO N-SYL TRANS
1G6	TRNG NFO N-SYL AIR CMBT
1G7	TRNG NFO N-SYL ATCK
1G8	TRNG NFO N-SYL ASW
1G9	TRNG NFO N-SYL SP EQUIP
1G0	TRNG NFO N-SYL UNSAT FLT
1H1	TRNG OT US MIL F/F/N
1H2	TRNG OT US MIL INST
1H3	TRNG OT US MIL FCLP/CAL
1H4	TRNG OT US MIL CQ
1H5	TRNG OT US MIL TRANS
1H6	TRNG OT US MIL AIR CMBT
1H7	TRNG OT US MIL ATCK
1H8	TRNG OT US MIL ASW
1H9	TRNG OT US MIL SP EQUIP
1H0	TRNG OT US MIL UNSAT FLT
1I1	TRNG FRGN F/F/N

TMR CODE	DESCRIPTION
1I2	TRNG FRGN INST
1I3	TRNG FRGN FCLP/CAL
1I4	TRNG FRGN CQ
1I5	TRNG FRGN TRANS
1I6	TRNG FRGN AIR CMBT
1I7	TRNG FRGN ATCK
1I8	TRNG FRGN ASW
1I9	TRNG FRGN SP EQUIP
1I0	TRNG FRGN UNSAT FLT
1N1	TRNG C/A MAINT ENG/FUEL
1N2	TRNG C/A MAINT HYD/FRAME
1N3	TRNG C/A MAINT RADIOS
1N4	TRNG C/A MAINT NAVAID
1N5	TRNG C/A MAINT RAD/SYS
1N6	TRNG C/A MAINT ELEC/INST
1N7	TRNG C/A MAINT ORDNANCE
1N8	TRNG C/A MAINT WGMAN DOWN
1N9	TRNG C/A MAINT SUPT EQUIP
1N0	TRNG C/A MAINT SAFETY
1O1	TRNG C/A OPS WEATHER
1O2	TRNG C/A OPS HIGHER AUTH
1O3	TRNG C/A OPS SUPT UNIT
1O4	TRNG C/A OPS NO TGT
1O5	TRNG C/A OPS FAC DOWN
1O6	TRNG C/A OPS AIR SPACE
1O7	TRNG C/A OPS NO CREW
1O8	TRNG C/A OPS ACCIDENT
1P1	TRNG SAR/WATER MIL SUPT
1P2	TRNG SAR/LAND MIL SUPT
1P3	TRNG SAR/WATER N-DOD
1P4	TRNG SAR/LAND N-DOD
1P5	TRNG SAR/MEDEVAC MIL SUPT
1P6	TRNG SAR/MEDEVAC N-DOD
1P7	TRNG SAR/MEDEVAC LAND CMBT
1P8	TRNG SAR/WATER CMBT
1P9	TRNG SAR/LAND CMBT
1P0	TRNG SAR
1R4	TRNG TRANS TRP IN/OUT CMBT
1R5	TRNG TRANS LSN IN/OUT CMBT
1R6	TRNG TRANS LOG IN/OUT CMBT

TMR CODE	DESCRIPTION
2J1	SUPT FERRY FLEET FUND
2J2	SUPT FERRY SQDN FUND
2K1	SUPT TEST FLEET FUND
2K2	SUPT TEST SQDN FUND
2K3	SUPT TEST OBS/CHASE TGT
2K4	SUPT BOGEY FOR OT ACFT
2K5	SUPT BOGEY FOR GND UNIT
2K6	SUPT BOGEY FOR SHIP OPS
2K7	SUPT FLY QUAL/PERF EVAL
2K8	SUPT ACCEL SERV/PROP EVAL
2K9	SUPT NAV/WEAP/EW EVAL
2K0	SUPT CARR SUIT/DYN EVAL
2L1	SUPT EXPM/EVAL OT&E
2L2	SUPT EXPM/EVAL ORI
2L3	SUPT EXPM/EVAL INST CHECK
2L4	SUPT EXPM/EVAL NATOPS
2L5	SUPT EXPM/EVAL STANDARD
2L6	SUPT EXPM/EVAL SP WEAPONS
2L7	SUPT ORD/CONV/NUC EVAL
2L8	SUPT DRONE/TGT TOW
2L9	SUPT ACFT/SURV SYS EVAL
2L0	SUPT PROJECT/OTHER
2M1	LOG SUPT MAG/CAG
2M2	LOG SUPT MAW/FUNCT WING
2M3	LOG SUPT NAS/MCAS
2M4	LOG SUPT FMF/CINC
2M5	LOG SUPT CMC/CNO
2M6	LOG SUPT TYCOM/MARDIV
2N1	SUPT C/A MAINT ENG/FUEL
2N2	SUPT C/A MAINT HYD/FRAME
2N3	SUPT C/A MAINT RADIOS
2N4	SUPT C/A MAINT NAVAID
2N5	SUPT C/A MAINT RAD/SYS
2N6	SUPT C/A MAINT ELEC/INST
2N7	SUPT C/A MAINT ORDNANCE
2N8	SUPT C/A MAINT WGMAN DOWN
2N9	SUPT C/A MAINT SUPT EQUIP
2N0	SUPT C/A MAINT SAFETY
2O1	SUPT C/A OPS WEATHER
2O2	SUPT C/A OPS HIGHER AUTH
2O3	SUPT C/A OPS SUPT UNIT
2O4	SUPT C/A OPS NO TGT
2O5	SUPT C/A OPS FAC DOWN

TMR CODE	DESCRIPTION
2O6	SUPT C/A OPS AIR SPACE
2O7	SUPT C/A OPS NO CREW
2O8	SUPT C/A OPS ACCIDENT
2O9	SUPT C/A OPS PROJECTS
2P1	SUPT SAR/WATER MIL SUPT
2P2	SUPT SAR/LAND MIL SUPT
2P3	SUPT SAR/WATER N-DOD
2P4	SUPT SAR/LAND N-DOD
2P5	SUPT SAR/MEDEVAC MIL SUPT
2P6	SUPT SAR/MEDEVAC N-DOD
2P7	SUPT SAR/MEDEVAC LAND CMBT
2P8	SUPT SAR/WATER CMBT
2P9	SUPT SAR/LAND CMBT
2P0	SUPT SAR TRNG
2Q1	SUPT MISC AEROLOGICAL
2Q2	SUPT MISC N-CMBT PAT
2Q3	SUPT MISC N-CMBT PH/RD MAP
2Q4	SUPT MISC AIR SHOW/DEMO
2Q5	SUPT MISC N-CMBT/TRNG
2Q6	SUPT MISC N-CMBT REFUEL
2Q7	SUPT MISC AEW TACT OPS
2Q8	SUPT MISC PATHFINDER
2Q9	SUPT MISC DRUG RUN
2R1	SUPT TRANS TRP SCH
2R2	SUPT TRANS TRP N-SCH
2R3	SUPT TRANS TRP N-SCH ADMIN
2R4	SUPT TRANS TRP IN/OUT CMBT
2R5	SUPT TRANS LSN IN/OUT CMBT
2R6	SUPT TRANS LOG IN/OUT CMBT
3N1	BGO C/A MAINT ENG/FUEL
3N2	BGO C/A MAINT HYD/FRAME
3N3	BGO C/A MAINT RADIOS
3N4	BGO C/A MAINT NAVAID
3N5	BGO C/A MAINT RAD/SYS
3N6	BGO C/A MAINT ELEC/INST
3N7	BGO C/A MAINT ORDNANCE
3N8	BGO C/A MAINT WGMAN DOWN
3N9	BGO C/A MAINT SUPT EQUIP
3N0	BGO C/A MAINT SAFETY
3O1	BGO C/A OPS WEATHER
3O2	BGO C/A OPS HIGHER AUTH
3O3	BGO C/A OPS SUPT UNIT
3O4	BGO C/A OPS NO TGT

TMR CODE	DESCRIPTION
3O5	BGO C/A OPS FAC DOWN
3O6	BGO C/A OPS AIR SPACE
3O7	BGO C/A OPS NO CREW
3O8	BGO C/A OPS ACCIDENT
3S1	BGO DES GND ATCK BEF T/O
3S2	BGO DES GND ATCK AFT T/O
3S3	BGO DES ILLUM TGT
3S9	BGO DES ESC/COV NO ATCK
3T1	BGO N-DES GND ATCK BEF T/O
3T2	BGO N-DES TGT OPP RECON
3T3	BGO N-DES ILLUM TGT
3T4	BGO N-DES FLACK SUPPRESS
3T5	BGO N-DES MISSILE SUPPRESS
3T6	BGO N-DES MINELAYING
3T7	BGO N-DES REFUEL CMBT OPS
3T8	BGO N-DES ECM SUPT GND TGT
3T9	BGO N-DES ESC/COV NO ATCK
3U1	BGO AWO FIGHTER SWEEPS
3U2	BGO AWO CMBT AIR PAT
3U3	BGO AWO DEF DIVER/DECEPT
3U4	BGO AWO ECM SUPT FROM ACFT
3U5	BGO AWO AMCM NEUT/ SWEEP
3U8	BGO AWO ESC USAF BOMBERS
3U9	BGO AWO ESC/COV TRANS
3V1	BGO RECON PHOTO
3V2	BGO RECON RAD/ECM
3V3	BGO RECON GUNFIRE SPOT
3V4	BGO RECON AMCM SEARCH
3V9	BGO RECON ESC/COV ACFT
3W1	BGO DEF HOME AEW/CIC
3W2	BGO DEF HOME CMBT AIR CONT
3W7	BGO DEF HOME INTERCEPT
3X1	BGO DEF OT AEW/CIC
3X2	BGO DEF OT PROT RAD ACFT
3X7	BGO DEF OT INTERCEPT
3Y1	BGO OFF ASW ROUT SEARCH
3Y2	BGO OFF ASW BARRIER PAT
3Y3	BGO OFF ASW OFF SEARCH
3Y4	BGO OFF ASW HOLDDOWN SUB

TMR CODE	DESCRIPTION
3Y5	BGO OFF ASW ATCK SUB
3Y6	BGO OFF ASW LOC/ATCK SUB
3Y9	BGO OFF ASW ATCK SUB FAC
3Z1	BGO DEF ASW PROT FORCE
3Z2	BGO DEF ASW ESC SHIPS
3Z4	BGO DEF ASW DEF HARBOR
4N1	FMF C/A MAINT ENG/FUEL
4N2	FMF C/A MAINT HYD/FRAME
4N3	FMF C/A MAINT RADIOS
4N4	FMF C/A MAINT NAVAID
4N5	FMF C/A MAINT RAD/SYS
4N6	FMF C/A MAINT ELEC/INST
4N7	FMF C/A MAINT ORDNANCE
4N8	FMF C/A MAINT WGMAN DOWN
4N9	FMF C/A MAINT SUPT EQUIP
4N0	FMF C/A MAINT SAFETY
4O1	FMF C/A OPS WEATHER
4O2	FMF C/A OPS HIGHER AUTH
4O3	FMF C/A OPS SUPT UNIT
4O4	FMF C/A OPS NO TGT
4O5	FMF C/A OPS FAC DOWN
4O6	FMF C/A OPS AIR SPACE
4O7	FMF C/A OPS NO CREW
4O8	FMF C/A OPS ACCIDENT
4S1	FMF DES GND ATCK BEF T/O
4S2	FMF DES GND ATCK AFT T/O
4S3	FMF DES ILLUM TGT
4S9	FMF DES ESC/COV NO ATCK
4T1	FMF N-DES GND ATCK BEF T/O
4T2	FMF N-DES TGT OPP RECON
4T3	FMF N-DES ILLUM TGT
4T4	FMF N-DES FLACK SUPPRESS
4T5	FMF N-DES MISSILE SUPPRESS
4T6	FMF N-DES MINELAYING
4T7	FMF N-DES REFUEL CMBT OPS
4T8	FMF N-DES ECM SUPT TGT
4T9	FMF N-DES ESC/COV NO ATCK
4U1	FMF AWO FIGHTER SWEEPS
4U2	FMF AWO CMBT AIR PAT
4U3	FMF AWO DEF DIVER/DECEPT
4U4	FMF AWO ECM SUPT FROM ACFT
4U5	FMF AWO AMCM NEUT/SWEEP
4U8	FMF AWO ESC USAF BOMBERS

TMR CODE	DESCRIPTION
4U9	FMF AWO ESC/COV TRANS
4V1	FMF RECON PHOTO
4V2	FMF RECON RAD/ECM
4V3	FMF RECON GUNFIRE SPOT
4V4	FMF RECON AMCM SEARCH
4V9	FMF RECON ESC/COV
4W1	FMF DEF HOME AEW/CIC
4W2	FMF DEF HOME CMBT AIR CONT
4W7	FMF DEF HOME INTERCEPT
4X1	FMF DEF OT AEW/CIC
4X2	FMF DEF OT PROT RAD ACFT
4X7	FMF DEF OT INTERCEP
4Y1	FMF OFF ASW ROUT SEARCH
4Y2	FMF OFF ASW BARRIER PAT
4Y3	FMF OFF ASW OFF SEARCH
4Y4	FMF OFF ASW HOLD DOWN SUB
4Y5	FMF OFF ASW ATCK SUB
4Y6	FMF OFF ASW LOC/ATCK SUB
4Y9	FMF OFF ASW ATCK SUB FAC
4Z1	FMF DEF ASW PROT FORCE
4Z2	FMF DEF ASW ESC SHIPS
4Z4	FMF DEF ASW DEF HARBOR
5N1	CONT C/A MAINT ENG/FUEL
5N2	CONT C/A MAINT HYD/FRAME
5N3	CONT C/A MAINT RADIOS
5N4	CONT C/A MAINT NAVAID
5N5	CONT C/A MAINT RAD/SYS
5N6	CONT C/A MAINT ELEC/INST
5N7	CONT C/A MAINT ORDNANCE
5N8	CONT C/A MAINT WGMAN DOWN
5N9	CONT C/A MAINT SUPT EQUIP
5N0	CONT C/A MAINT SAFETY
5O1	CONT C/A OPS WEATHER
5O2	CONT C/A OPS HIGHER AUTH
5O3	CONT C/A OPS SUPT UNIT
5O4	CONT C/A OPS NO TGT
5O5	CONT C/A OPS FAC DOWN
5O6	CONT C/A OPS AIR SPACE
5O7	CONT C/A OPS NO CREW
5O8	CONT C/A OPS ACCIDENT
5S1	CONT DES GND ATCK BEF T/O
5S2	CONT DES GND ATCK AFT T/O

TMR CODE	DESCRIPTION
5S3	CONT DES ILLUM TGT
5S9	CONT DES ESC/COV NO ATC
5T1	CONT N-DES ATCK BEF T/O
5T2	CONT N-DES TGT OPP RECON
5T3	CONT N-DES ILLUM TGT
5T4	CONT N-DES FLACK SUPPRESS
5T5	CONT N-DES MISSILE SUPPRESS
5T6	CONT N-DES MINELAYING
5T7	CONT N-DES REFUEL CMBT OPS
5T8	CONT N-DES ECM SUPT TGT
5T9	CONT N-DES ESC/COV NO ATCK
5U1	CONT AWO FIGHTER SWEEPS
5U2	CONT AWO CMBT AIR PAT
5U3	CONT AWO DEF DIVER/ DECEPT
5U4	CONT AWO ECM SUPT ACFT
5U5	CONT AWO AMCM NEUT/ SWEEP
5U8	CONT AWO ESC USAF BOMBERS
5U9	CONT AWO ESC/COV TRANS
5V1	CONT RECON PHOTO
5V2	CONT RECON RAD/ECM
5V3	CONT RECON GUNFIRE SPOT
5V4	CONT RECON AMCM SEARCH
5V9	CONT RECON ESC/COV ACFT
5W1	CONT DEF HOME AEW/CIC
5W2	CONT DEF HOME CMBT AIR CON
5W7	CONT DEF HOME INTERCEP
5X1	CONT DEF OT AEW/CIC
5X2	CONT DEF OT PROT RAD ACFT
5X7	CONT DEF OT INTERCEPT
5Y1	CONT OFF ASW ROUT SEARCH
5Y2	CONT OFF ASW BARRIER PAT
5Y3	CONT OFF ASW OFF SEARCH
5Y4	CONT OFF ASW HOLDDOWN SUB
5Y5	CONT OFF ASW ATTACK SUB
5Y6	CONT OFF ASW LOC/ATCK SUB
5Y9	CONT OFF ASW ATCK SUB FAC
5Z1	CONT DEF ASW PROT FORCE
5Z2	CONT DEF ASW ESC SHIPS
5Z4	CONT DEF ASW DEF HARBOR

TMR CODE	DESCRIPTION
6N1	CMBT C/A MAINT ENG/FUEL
6N2	CMBT C/A MAINT HYD/FRAME
6N3	CMBT C/A MAINT RADIOS
6N4	CMBT C/A MAINT NAVAID
6N5	CMBT C/A MAINT RAD/SYS
6N6	CMBT C/A MAINT ELEC/INST
6N7	CMBT C/A MAINT ORDNANCE
6N8	CMBT C/A MAINT WGMAN DOWN
6N9	CMBT C/A MAINT SUPT EQUIP
6N0	CMBT C/A MAINT SAFETY
6O1	CMBT C/A OPS WEATHER
6O2	CMBT C/A OPS HIGHER AUTH
6O3	CMBT C/A OPS SUPT UNIT
6O4	CMBT C/A OPS NO TGT
6O5	CMBT C/A OPS FAC DOWN
6O6	CMBT C/A OPS AIRSPACE
6O7	CMBT C/A OPS NO CREW
6O8	CMBT C/A OPS ACCIDENT
6S1	CMBT DES GND ATCK BEF T/O
6S2	CMBT DES GND ATCK AFT T/O
6S3	CMBT DES ILLUM TGT
6S9	CMBT DES ESC/COV NO ATCK
6T1	CMBT N-DES ATCK BEF T/O
6T2	CMBT N-DES TGT OPP RECON
6T3	CMBT N-DES ILLUM TGT
6T4	CMBT N-DES FLACK SUPPRESS
6T5	CMBT N-DES MISSILE SUPPRES
6T6	CMBT N-DES MINELAYING
6T7	CMBT N-DES REFUEL CMBT OPS
6T8	CMBT N-DES ECM SUPT TGT
6T9	CMBT N-DES ESC/COV NO ATCK
6U1	CMBT AWO FIGHTER SWEEPS
6U2	CMBT AWO AIR PAT
6U3	CMBT AWO DEF DIVER/ DECEPT
6U4	CMBT AWO ECM SUPT
6U5	CMBT AWO AMCM NEUT/ SWEEP
6U8	CMBT AWO ESC USAF BOMBERS
6U9	CMBT AWO ESC/COV TRANS
6V1	CMBT RECON PHOTO

TMR CODE	DESCRIPTION
6V2	CMBT RECON RAD/ECM
6V3	CMBT RECON GUNFIRE SPOT
6V4	CMBT RECON AMCM SEARCH
6V9	CMBT RECON ESC/COV ACFT
6W1	COMBT DEF HOME AEW/CIC
6W2	CMBT DEF HOME CMBT AIR CON
6W7	CMBT DEF HOME INTERCEPT
6X1	CMBT DEF OT AEW/CIC
6X2	CMBT DEF OT PROT RAD ACFT
6X7	CMBT DEF OT INTERCEPT
6Y1	CMBT OFF ASW ROUT SEARCH
6Y2	CMBT OFF ASW BARRIER PAT
6Y3	CMBT OFF ASW OFF SEARCH
6Y4	CMBT OFF ASW HOLDDOWN SUB DOWN SUB
6Y5	CMBT OFF ASW ATCK SUB
6Y6	CMBT OFF ASW LOC/ATCK SUB
6Y9	CMBT OFF ASW ATCK SUB FAC
6Z1	CMBT DEF ASW PROT FORCE
6Z2	CMBT DEF ASW ESC SHIPS
6Z4	CMBT DEF ASW DEF HARBOR
7N1	EXER C/A MAINT ENG/FUEL
7N2	EXER C/A MAINT HYD/FRAME
7N3	EXER C/A MAINT RADIOS
7N4	EXER C/A MAINT NAVAID
7N5	EXER C/A MAINT RAD/SYS
7N6	EXER C/A MAINT ELEC/INST
7N7	EXER C/A MAINT ORDNANCE
7N8	EXER C/A MAINT WGMAN DOWN
7N9	EXER C/A MAINT SUPT EQUIP
7N0	EXER C/A MAINT SAFETY
7O1	EXER C/A OPS WEATHER
7O2	EXER C/A OPS HIGHER AUTH
7O3	EXER C/A OPS SUPT UNIT
7O4	EXER C/A OPS NO TGT
7O5	EXER C/A OPS FAC DOWN
7O6	EXER C/A OPS AIR SPACE
7O7	EXER C/A OPS NO CREW
7O8	EXER C/A OPS ACCIDENT
7S1	EXER DES GND ATCK BEF T/O
7S2	EXER DES GND ATCK AFT T/O
7S3	EXER DES ILLUM TGT

TMR CODE	SCRIPTION
7S9	EXER DES ESC/COV NO ATCK
7T1	EXER N-DES ATCK BEF T/O
7T2	EXER N-DES TGT OPP RECON
7T3	EXER N-DES ILLUM TGT
7T4	EXER N-DES FLACK SUPPRESS
7T5	EXER N-DES MISSILE SUPPRES
7T6	EXER N-DES MINELAYING
7T7	EXER N-DES REFUEL CMBT OPS
7T8	EXER N-DES ECM SUPT TGT
7T9	EXER N-DES ESC/COV NO ATCK
7U1	EXER AWO FIGHTER SWEEPS
7U2	EXER AWO AIR PAT
7U3	EXER AWO DEF DIVER/ DECEPT
7U4	EXER AWO ECM SUPT
7U5	EXER AWO AMCM NEUT/ SWEEP
7U8	EXER AWO ESC USAF BOMBERS
7U9	EXER AWO ESC/COV TRANS
7V1	EXER RECON PHOTO
7V2	EXER RECON RAD/ECM
7V3	EXER RECON GUNFIRE SPOT
7V4	EXER RECON AMCM SEARCH
7V9	EXER RECON ESC/COV ACFT
7W1	EXER DEF HOME AEW/CIC
7W2	EXER DEF HOME CMBT AIR CON
7W7	EXER DEF HOME INTERCEPT
7X1	EXER DEF OT AEW/CIC
7X2	EXER DEF OT PROT RAD ACFT
7X7	EXER DEF OT INTERCEPT
7Y1	EXER OFF ASW ROUT SEARCH
7Y2	EXER OFF ASW BARRIER PAT
7Y3	EXER OFF ASW OFF SEARCH
7Y4	EXER OFF ASW HOLD DOWN SUB DOWN SUB
7Y5	EXER OFF ASW ATCK SUB
7Y6	EXER OFF ASW LOC/ATCK SUB
7Y9	EXER OFF ASW ATCK SUB FAC
7Z1	EXER DEF ASW PROT FORCE
7Z2	EXER DEF ASW ESC SHIPS
7Z4	EXER DEF ASW DEF HARBOR

APPENDIX E

Aviation Physiology and Water Survival Requirements

	LECTURES						DEVICES			
	Aviation Physiology	Stress and Human Performance	Sensory Physiology	Emergency Egress Systems	Aviation Life Support Systems	Survival (Self-Aid) First-Aid	Low-Pressure Chamber	Disorientation Demonstrator	Centrifuge Trainer	Ejection Seat
Initial Physiology	A	B	C	D	E	F	G	H	I	J
NP1 Initial	X	X	X	X	X	6	X	7		4
NP2 Initial	X	X	X	X	X	X	X			4
NP3 Selected Passenger	X	X	X	X	X	X	X			4
NP4 Project Specialist	X		X	X	X					
NP5 CFET		X							X	
NP6 Special Operations Personnel	X	X					X			
NP7 (COR/PRO TRAMID) Midshipmen	X		X	X	X		1			4
NP8 VIPs	X		X	X	X		1			4
Refresher Physiology	A	B	C	D	E	F	G	H	I	J
RP1 Ejection Seat	X	X	X	X	X	X	X			X
RP2 Nonejection Seat Pressurized	X	X	X	X	X	X	X			
RP3 Nonpressurized	X	X	X	X	X	X	2			
RP4 Project Specialist	X		X	X	X					
RP6 Special Operations Personnel	X	X					X			
RP7 Selected Passenger	X	X	X	X	X	X	X			4

Figure E-1. Naval Aviation Physiology Training Program Requirements (Sheet 1 of 3)

NOTES

1. 8,000-foot, low-pressure chamber flight if aircraft is equipped with a pressurization system.
2. Low-pressure chamber training required for V-22 aircrews.
3. Upon request of aircrewmen.
4. Prior to flight in ejection-seat-equipped aircraft.
5. Not required for helicopter refreshers.
6. Initial training conducted at NAS Pensacola has first-aid as part of land survival curriculum.
7. Multistation disorientation demonstrator is available in Pensacola only and is not required for refreshers.

LECTURES

A **Aviation Physiology.** Classroom presentation and low-pressure chamber flight (when applicable) on the effects of altitude on the human body. The principles of cardiovascular and respiratory physiology are emphasized. Presentation primarily covers hypoxia, hyperventilation, trapped gas, evolved gas (decompression sickness), and aviation oxygen systems.

B **Stress and Human Performance.** Classroom presentation discussing the various aspects of physiological, (self-imposed) psychological, environmental, and mission stressors, and their effect on performance. Major emphasis is specific for each type of community (i.e., noise and vibration, heat stress (helicopters); boredom, circadian rhythms, time zone shifts (cargo, transport, patrol); and pressurization and acceleration for tactical jet aircrews). General topics presented to all aviators are exercise, nutrition, drugs, alcohol, heat stress, dehydration, fatigue, psychological stress, and stress management.

C **Sensory Physiology.** Classroom presentation and training device evolution (when applicable) that continues discussing the effects of altitude on the human body. Specifically, the stressors of flight that affect sensory adaptation (acceleration, darkness, lack of visual cues, visual illusions, etc.) are covered. Disorientation, misorientation, temporal distortion, motion sickness caused by flight, and situational awareness are also typical topics for discussion. Depending on the aircraft type (jet, propeller, helicopter, etc.), special protective devices, such as night vision devices, laser protection, and threats such as lasers are also discussed.

D **Emergency Egress/Systems.** Classroom presentation and dynamic training evolutions (where available/appropriate) on emergency egress/systems. Lecture for tactical jets emphasizes the psychological aspects of the ejection decision, aeromedical aspects of ejection, windblast, flailing injuries, seat-man separation, parachute opening, parachute descent (over land), and landing. Emergency ground egress is also covered. Lecture for cargo/transport/patrol emphasizes bailout, parachute opening, descent (over land), and landing, as well as crash survival. Lecture for helicopters emphasizes crash survival. Note: Ditching for cargo/transport/patrol/helicopters, etc., covered in NAWSTP.

E **Aviation Life Support Systems.** Classroom presentation and drills (where available/appropriate) covering applicable ALSS items/survival/rescue equipment utilized by specific aircraft/aircrews. Helmets, antiexposure systems, flight clothing, survival vests, flotation devices, liferafts, special weapon systems like laser and CBR protection equipment, signaling devices, survival avionics, and anti-g suits for tactical aircrews are typical items discussed.

F **Survival (Self-Aid) First-Aid.** Classroom presentation and dynamic training evolutions (where available/appropriate) on emergency (survival) first-aid. Emphasis is on self-aid and using survival equipment/improvised first-aid items available to specific aircrews by type aircraft.

Figure E-1. Naval Aviation Physiology Training Program Requirements (Sheet 2 of 3)

TRAINING DEVICES

G **Low-Pressure Chamber (LPC) Brief/Flight.** Where available/applicable, low-pressure chamber is utilized to reinforce classroom training on the principles of effects of altitude on the human body. Note: Rapid decompression chamber flights are available upon TYCOM request.

H **Multistation Disorientation Demonstrator.** The device is available only at NAS Pensacola. The training device is utilized to demonstrate visual and vestibular phenomena.

I **Centrifuge Training.** Where available/applicable, a centrifuge is utilized to enhance g tolerance/ operational readiness and reinforce classroom presentation on the effects of acceleration (GLOC) covered in "Stress in Naval Aviation" lecture. Aircrews demonstrate ability to properly perform anti-g straining maneuver under acceleration forces designed to stimulate g forces in flight.

J **Ejection Seat Trainer.** Where available/applicable, an ejection seat trainer is utilized to reinforce the aeromedical aspects of ejection covered in "Emergency Egress Systems" lecture. Aircrews demonstrate ability to assume proper body position and initiate ejection. Refresher students will receive at least static ejection seat training. Dynamic ejection seat training is highly encouraged and is available upon request of the aircrewman during the refresher NAPTP training.

Ejection Seat (RP-1)		Practice Equipped and/or Nonejection Seat Pressurized (RP-2)		Nonpressurized* (RP-3)
A-4	F-14	C-2	P-3	AH-1
A-6	F-16	C-9	T-34	H-1
AV-8	FA-18	C-12	T-39	H-2
EA-6	S-3	C-20	T-44	H-3
F-5	T-2	C-130		H-46
	T-45	E-2		H-53
		E-6		TH-57
				H-60
				V-22

* Low-pressure chamber not required for refreshers except V-22

Figure E-1. Naval Aviation Physiology Training Program Requirements (Sheet 3 of 3)

A. Physiology Topics

1. Aviation Physiology
2. Noise and Vibration
3. G-Induced Loss of Consciousness and G-Tolerance Improvement
4. Chemical Warfare
5. Biological Warfare
6. Radiological Warfare
7. Exercise
8. Cardiovascular Fitness
9. Strength Training
10. Nutrition/Weight Control
11. Hypothermia
12. Heat Stress
13. Self-imposed Stress
14. Drugs
    a. Self Medication
    b. "Illegal" Drugs
    c. Performance Enhancement
    d. Stimulants
15. Alcohol
16. Fatigue
17. Survival/Combat First-Aid
18. 3710.7 (Chapter 8)

B. Sensory Physiology

1. Vision
2. Disorientation/Misorientation (Types)
3. Visual Illusions/Problems
4. Vestibular Illusions
5. Night Vision Environment
6. Night Vision Goggles
7. Lasers/Laser Protection
8. Midair Collision Avoidance (Aeromedical Factors)
9. Motion Sickness
10. Simulator Sickness
11. Visual Scanning/Blindspots
12. Target Fixation
13. Induced Myopia (Night and Empty Field)
14. Visual Overload

C. Psychology/Stress

1. Stress
2. Stress Management
3. Low-Level Human Factors of Flight
    a. NOE
    b. TEAF
4. Temporal Distortion/Time Distortion
5. Situational Awareness
6. Anomalies of Attention/Complacency
7. Self Hypnosis (Performance Awareness)
8. Crew Coordination
9. Cockpit Resource Management
10. Task Saturation
11. Learning
12. Memory Improvement
13. Circadian Rhythms/Long-Duration Flights/ Fatigue
14. Human Factors (General)

D. Emergency Egress/Survival/Survival Equipment

1. Aeromedical Aspects of Ejection
2. Psychology of Delayed Ejection
3. Emergency Egress/Ground Egress
4. Search/Rescue/Survival
5. Aviation Life Support Systems (ALSS)
6. Parachuting Techniques
7. Ditching/Crash Landing
8. Land Survival
9. Water Survival
10. Impact/Acceleration/Survivability
11. Escape and Evasion

E. Specialized/Deployment Briefs

1. Surg Op/Combat Stress
2. Motor Vehicle Human Factors
3. AMSO/Flight Surgeon Roles
4. Predeployment Syndrome
5. Jungle Survival
6. Mountain Survival
7. Desert Survival
8. Arctic Survival

NOTES:

1. Many of the above topics are interrelated and hence could be/have been listed in more than one area.
2. This list is not exhaustive. Aviation physiologists, aeromedical safety officers, aviation psychologists, aviation optometrists, and flight surgeons may be able to speak on any number of other topics.

Figure E-2. Adjunctive Training/Physiological Threat Briefs

COMMAND	LOCATION	CAPABILITY
NAVOPMEDINST PENSACOLA, FL	ASTC, NAS NORFOLK	FULL
NAVOPMEDINST PENSACOLA, FL	ASTC, NAS CECIL FIELD	FULL
NAVOPMEDINST PENSACOLA, FL	*ASTC, MCAS EL TORO	FULL
NAVOPMEDINST PENSACOLA, FL	*ASTC, NAS CORPUS CHRISTI, TX	FULL
NAVOPMEDINST PENSACOLA, FL	*ASTC, NAS BRUNSWICK, ME	NO DYNAMIC EJECTION SEAT TRAINING
NAVOPMEDINST PENSACOLA, FL	*ASTC, NAS BARBERS PT, HI	FULL
NAVOPMEDINST PENSACOLA, FL	*ASTC, NAS PATUXENT RIVER, MD	FULL
NAVOPMEDINST PENSACOLA, FL	ASTC, MCAS CHERRY PT, NC	FULL
NAVOPMEDINST PENSACOLA, FL	ASTC, NAS LEMOORE, CA	FULL
NAVOPMEDINST PENSACOLA, FL	ASTC, NAS WHIDBEY ISLAND, WA	FULL
NAVOPMEDINST PENSACOLA, FL	ASTC, NAS PENSACOLA	FULL
NAVOPMEDINST PENSACOLA, FL	ASTC, NAS MIRAMAR	FULL

THE FOLLOWING USAF SITE IS AUTHORIZED TO CONDUCT NAPTP TRAINING UNDER THE DIRECT SUPERVISION OF A NAVAL AEROSPACE PHYSIOLOGIST:

COMMAND	LOCATION	CAPABILITY
15TH PHYSIOLOGICAL TRAINING FLIGHT	*KADENA AB, OKINAWA	NO DYNAMIC EJECTION SEAT TRAINING

PQS QUALIFIED NAVAL AEROSPACE PHYSIOLOGISTS ASSIGNED AS AEROMEDICAL SAFETY OFFICERS (AMSO) ARE AUTHORIZED TO CONDUCT THE REFRESHER LECTURE PHASES OF THE NAPTP CURRICULUM WHEN DYNAMIC TRAINING DEVICE EVOLUTIONS ARE NOT REQUIRED BY THIS INSTRUCTION.

*NOTE: These sites are scheduled for closure through BRAC or CNO action.

Figure E-3. Naval Aviation Physiology Training Detachments

ACTIVITY DUTY SITES	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	R1	R2	R3
NAS BARBERS POINT (1)*		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
NAS BRUNSWICK (2)*		Q	Q	Q	CQ			Q				CQ	CQ
MCAS CHERRY POINT (2)		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
NAS CORPUS CHRISTI (2)*		Q	Q	Q	CQ			Q			CQ	CQ	CQ
MCAS EL TORO*		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
NAS JACKSONVILLE		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
NAS LEMOORE		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
NAS MIRAMAR		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
NAS NORFOLK		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
NAS PATUXENT RIVER (2)*		Q	Q	Q	CQ			Q			CQ	CQ	CQ
NAS PENSACOLA	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NAS WHIDBEY ISLAND (3)		Q	Q	Q	CQ		Q	Q			Q	Q	Q
OKINAWA, JAPAN (CG 1ST MAW)*		Q	Q	Q	Q		Q	Q	Q	Q	Q	Q	Q
RESERVE SITES*	**N1**	**N2**	**N3**	**N4**	**N5**	**N6**	**N7**	**N8**	**N9**	**N10**	**R1**	**R2**	**R3**
NAVAIRES NEW ORLEANS			Q	Q	CQ			Q			Q	Q	Q
NAVAIRES SANTA CLARA			Q	Q	CQ			Q			Q	Q	Q
NAVAIRES WILLOW GROVE			Q	Q	CQ			Q			Q	Q	Q

Q — NAWSTP SITES ARE AUTHORIZED TO GRANT A GRADE OF QUALIFIED IN A PARTICULAR CURRICULUM.

CQ — NAWSTP SITES ARE AUTHORIZED TO GRANT A GRADE OF CONDITIONALLY QUALIFIED IN A PARTICULAR CURRICULUM.

NOTES:

(1) PERSONNEL RECEIVING NAWSTP TRAINING (N5, R1, R2, OR R3) OUTSIDE THE CONTINENTAL U.S. (OUTCONUS) TRAINING ACTIVITIES SHALL COMPLETE THE APPROPRIATE TRAINING DEVICES WITHIN 90 DAYS AFTER RETURNING TO CONUS, IF ORDERED TO DUTY IN A FLYING BILLET.

(2) ACTIVE DUTY CONUS SITES WITHOUT DEVICES SHALL ONLY BE AUTHORIZED TO GRANT A GRADE OF CQ FOR N5, R1, R2, AND R3 CURRICULA. THEY MAY GRANT A GRADE OF Q FOR RESERVE PERSONNEL OPERATING UNDER THE CONTROL OF COMNAVAIRESFOR FOR R1, R2, AND R3.

(3) 9E8 USED INSTEAD OF 9D5 FOR REFRESHER TRAINING ONLY.

(*) SITES SCHEDULED FOR CLOSURE THROUGH BRAC OR CNO ACTION.

GENERAL NOTES:

CNET (NAVAVSCOLSCOM/NETSAFA) CONDUCTS BASIC SWIM AS PREREQUISITE TO N1 TRAINING.

TRAINING FOR JOINT SERVICE BATTLESTAFF PERSONNEL CAN BE PERFORMED AT SERVICE UNIQUE TRAINING FACILITIES.

Figure E-4. Naval Aviation Water Survival Training Program Sites and Curriculum

NAVAL AVIATION WATER SURVIVAL TRAINING PROGRAM REQUIREMENTS
NAWSTP INITIAL COURSES

	A	B	C	D	E	F	J	K	L	M1	M2	N1	N2	P	Q,	Q1	R	T	U	Y	Y1	Z[8]
N1	X	7	7	7	7/8	7	X	X	X	7	7	X		X	X	X	7		X	X	X	X
N2	X	X	X	X	X	X	X	X	X	X	X				3	3		X			X	

NAWSTP FLEET INITIAL COURSES

	A	J	K	L	M1	M2	N1	N2	O	P	Q	Q1	T	U	X	Y1	Z
N3	X	X	X	X	X	X	3	1	3	6	3	3	X	X		3	
N4	X	X	X	X	4		3				3	3	X	X		3	
N5	X	X	X	X	X	X	X	1	2	6	2	2	X	X		X	X
N6	X	X	X						X	6	X	X			X	X	

NAWSTP SUPPLEMENTAL COURSES

	A	J	K	L	M1	M2	N1	N2	T	U	Y1	Z
N7	X	X						X				X
N8	X				4	4			X			
N9	X	5	5	5	4	4	X			5	5	
N10	X	X			4	4		X	X			

NAWSTP REFRESHER COURSES

	A	K	L	M1	M2	N1	N2	O	P	Q	Q1	S	T	U	Y1	Z
R1	X	X	X	X	X	X	1	X	6	X	X	X	X	X	X	X
R2	X	X	X	X	X	X	1			X	X	X	X	X	X	X
R3	X	X	X	X	X	X	1					X	X	X	X	X

Notes:

1. In order to be fully qualified to fly, aircrew that are required and other personnel who are authorized to carry the HEED shall successfully complete the NAWSTP Supplemental (N7) course at intervals outlined in paragraph 8.4.2.1.
2. When applicable to type aircraft (i.e., equipped with parachutes).
3. Lecture material will be provided if applicable to aircraft type. Device training is authorized for selected passengers (N3) only when requested in writing by the flight approving authority. Successful completion of device training is not required to achieve an overall grade of Qualified.
4. Swimming evaluations for these NAWSTP courses differ from other initial and refresher programs. Information concerning these requirements may be requested by contacting authorized training activities listed in Figure E-4.
5. Optional training/training device may be requested when scheduling Multiplace Aircraft Underwater Egress training. Contact authorized training activities. See Figure E-4 for further information.
6. Lecture only for R1, N3 (Jet), and N6 students.
7. Modules transferred to NAVAVSCOLSCOM as part of the basic swim program.
8. USAF is exempt from Module E.

Figure E-5. Naval Aviation Water Survival Training Requirements (Sheet 1 of 3)

A — NAWSTP OVERVIEW. Classroom presentation on the content and requirements of the Naval Aviation Water Survival Training Program. During this period, the students will also complete medical screening questionnaires and be briefed on the Drop on Request and Training Time Out policies.

B — DROWNPROOFING, BACKSTROKE, BREASTSTROKE.* Swimming instruction and pool practice of the fundamentals of these survival swimming techniques/strokes. GRADED ELEMENT — Skill must conform to standards specified in NAWSTP curriculum and CNET P1552/16.

C — SIDESTROKE AND AMERICAN CRAWL.* Swimming instruction and pool practice of the fundamentals of these two survival strokes. GRADED ELEMENTS — Skills must conform to standards specified in NAWSTP curriculum and CNET P1552/16.

D — SURFACE DIVE, UNDERWATER SWIMMING, ABANDON SHIP DRILL, AND TREADING WATER.* Swimming instruction and pool practice of the fundamentals of these survival swimming techniques. GRADED ELEMENT — Skills must conform to standards specified in NAWSTP curriculum and CNET P1552/16.

E — SURVIVAL CONFIDENCE AND ENDURANCE SWIM.* Swimming pool exercise requiring the student to swim approximately 1 mile while wearing a flight suit. GRADED ELEMENT. — Time requirement to swim the distance is 80 minutes or less.

F — SURFACE DEBRIS/BURNING OIL SWIM. Swimming instruction and pool practice of these survival swimming techniques.

J — EQUIPMENT AND PROCEDURES. Classroom instruction on aviation life support equipment and procedures for use.

K — RAFTS AND CONTENTS. Classroom presentation on single-place and multiplace liferafts used in naval aviation.

L — SIGNAL AND RESCUE DEVICES. Classroom instruction on the operating characteristics and use of signal and rescue devices. During N1, actual experience required, optional in other curricula.

M1 — FLIGHT EQUIPMENT SWIM.* Wearing flight equipment required by NAVAIR 13 1-6 series manual, swim 75 yards using three survival swim strokes (breaststroke, sidestroke, and backstroke). Initial (N1, N2, N3, N5, N8) requirement is 25 yards each stroke. Refresher requirement (R1, R2, R3) is 15 yards each stroke, completing the final 30 yards using any combination of the strokes desired. Form is not a critical element when evaluating either initial or refresher students. For other courses (N4, N8, N9, N10), contact a training site for requirements. GRADED ELEMENT — Completion of the 75-yard distance without using the pool bottom or sides for support.

M2 — FLIGHT EQUIPMENT TREADING WATER/DROWNPROOFING.* Treading water/drownproofing/inflation exercise for a total of 10 continuous minutes in NATOPS-required flight gear. Initial (N1, N2, N3, N5, N8) and refresher (R1, R2, R3) requirements — Demonstrate treading water (first 2 minutes) and drownproofing (next 2 minutes). During the final 6 minutes (more time may be allotted for personne' who are performing the skills at a slowe. pace), orally inflate the left side of the life preserver unit (LPU), manually activate the CO2 cartridge in the right side of the LPU, assume the H.E.L.P. and HUDDLE positions, and perform an eyes closed survival vest equipment location drill. GRADED ELEMENT — Completion of the 4-minute treading water/drownproofing exercise without using the pool bottom or side for support. The remaining 6 minutes is participation-based only; however, the student must complete this module of training. Treading water and drownproofing skills for all initial students will conform to the standards of CNET P1552/16.

N1 — MULTIPLACE AIRCRAFT UNDERWATER EGRESS.* Classroom presentation and practical experience in procedures for underwater escape from multiplace aircraft. COG 2"0" Device 9D5 used for dynamic training. GRADED ELEMENT — All rides must be completed without assistance from safety divers or releasing restraint while device is still in motion.

Figure E-5. Naval Aviation Water Survival Training Requirements (Sheet 2 of 3)

N2 — HELICOPTER EMERGENCY EGRESS DEVICE.* Classroom presentation and practical experience in procedures for underwater escape using the HEED. GRADED ELEMENT — Skills must conform to standards specified in the NAWSTP curriculum.

O — Intentionally left blank

P — SINGLE-PLACE AIRCRAFT UNDERWATER EGRESS. Lecture and practical experience in procedures for underwater escape from T-34 and ejection-seat-equipped aircraft. COG 2"0" Device 9E8 used for dynamic training T-34 pipeline students at NAS Pensacola and as a substitute for Device 9D5 at NAS Whidbey Island (for refreshers only).

Q — PARACHUTE DESCENT PROCEDURES. Lectures and practical experience in parachute descent procedures and parachute avoidance/disentanglement.

Q1 — PARACHUTE DRAG. Lecture and practical experience in parachute in-water release procedures.

R — FIRST-AID. Review of action that can be accomplished by the survivor to effect first-aid. N1 students will receive the American Red Cross Standard First-Aid course.

S — SURVIVAL EQUIPMENT. A review of aviation life support equipment and its use for NAWSTP refresher students.

T — SURVIVAL SWIMMING. Review of basic survival swimming skills (treading water, drownproofing, and swim strokes).

U — EXTENDED SEA SURVIVAL. Extended sea survival lecture and practical experience in single-place and multiplace liferaft righting, boarding, and organization. Training may be accomplished in protected open water or swimming pool.

X — OPEN-WATER PARACHUTE DESCENT TRAINING. Lecture and practical experience in actual parachute descent and water landing. COG 2"0" Device 9F7 used for dynamic training.

Y — HELICOPTER HOIST. Lecture and practical experience in an actual helicopter hoist from the water.

Y1 — RESCUE DEVICES AND SIMULATED HELICOPTER HOIST. Classroom presentation on rescue devices and the procedures for their use. Dynamic in-water training is done using COG 2"0" Device 9H1.

Z — FINAL EXAMINATION.* Written test administered in the following courses: N1, N5, N7, R1, R2, and R3. GRADED ELEMENT — 80 percent of the questions must be answered correctly.

DEFINITION OF GRADED ELEMENTS: Elements identified by an asterisk (*) are graded and must be satisfactorily demonstrated in accordance with standards established in CNO-approved curricula. Other elements of training are not to be graded in refresher training and will be for experience only, but they must be completed.

Figure E-5. Naval Aviation Water Survival Training Requirements (Sheet 3 of 3)

R1 EJECTION SEAT EQUIPPED		R2 PARACHUTE EQUIPPED	R3 NOT PARACHUTE EQUIPPED	
A-4	F-14	C-2	H-1	T-39
EA-6	F-16	C-130	H-2	C-12
AV-8	F/A-18	E-2	H-3	T-44
T-38	S-3	P-3	H-46	C-9
	T-2	T-34	H-53	TC-4
	T-45		H-57	C-20
			H-60	E-6
				V-22

Figure E-6. NAWSTP Refresher Training Curriculum Breakdown by Category of Aircraft

Appendix F

Exception, Special Qualification, Service, Landing, and Approach Codes

F.1 EXCEPTION CODES

C — Correction to previously submitted data other than RECTYP 7D.

D — Deletion of previously submitted data other than RECTYP 7D.

E — Documenting flights when the crewmember and the aircraft are assigned to different organizations (RECTYP 7C only).

G — Gaining a crewmember to the squadron data base (RECTYP 7D only).

L — Losing a crewmember from the squadron data base (RECTYP 7D only).

R — Revision to crewmember personnel data residing on the squadron data base (RECTYP 7D only).

S — Documenting staff member flight time. Indicates an individual assigned to an approved DIFOPS billet on a CVW staff only. All other staff crewmembers shall use an exception code E when flying in aircraft assigned to a different organization than the one to which the staff crewmember is assigned (RECTYP 7C only).

T — Documenting simulator time. Simulator time only refers to approved simulators capable of logging flight time (RECTYP 7C only).

X — Documenting a canceled flight. A canceled flight is one for which no flight time is obtained (RECTYP 7B only).

F.2 SPECIAL QUALIFICATION CODES

A — ACFT CMDR — That individual designated as a qualified aircraft commander in the aircraft model being flown, serving as pilot in command (pilot assigned responsibility for the safe and orderly conduct of the flight).

B — OBSERVER — Performs in-flight duties as an observer and not actively engaged in the performance of the flight.

C — COPILOT — An assistant pilot or instructor who is positioned with access to the flight controls or is providing instruction to the pilot exercising principal active control of the aircraft. The copilot designation does not change even though the copilot may exercise principal control of the aircraft.

D — SAR CREWMAN — Performs emergency medical care functions assigned in support of search and rescue missions.

E — ECM — Performs in-flight duties related to electronic countermeasures.

F — FLIGHT ENGINEER/CREWCHIEF — Performs in-flight duties as a flight engineer. Is knowledgeable of all aircraft systems, emergency procedures, and flight equipment. Troubleshoots and repairs discrepant aircraft systems.

G — FLT ATTENDANT — Performs in-flight duties as a flight attendant dealing with passenger handling requirements, safety procedures, and equipment.

H — FLT SURGEON — That individual designated as a flight surgeon. This individual may collect FPT or CPT as defined in Chapter 11 if all specified conditions are met.

I — INSTRUCTOR — Performs in-flight duties as an instructor or evaluator of other aeronautically designated personnel during the flight.

J — SENSOR OPERATOR — Performs in-flight duties as a sonar, acoustic, or nonacoustic operator.

K — FLT TECHNICIAN — Performs in-flight duties of maintaining, troubleshooting, and repairing avionic systems.

L — LOADMASTER — Performs in-flight functions of maintaining loading, rigging, internal cargo handling, and weight and balance requirements.

M — STUDENT PILOT — That individual under-going training as a student pilot and performing functions/collecting FPT or CPT.

N — MISSION SPECIALIST (Space Shuttle) — The mission specialist working with the commanding pilot has overall responsibility for the coordination of shuttle operations in the areas of crew activity planning, consumables usage, and experiment and payload operations.

O — ORDNANCE — Performs in-flight duties as a flightcrew ordnanceman. Is knowledgeable of aircraft ordnance systems, weapons loading, emergency procedures, and flight equipment.

P — NFO — As a qualified naval flight officer crewmember, performs in-flight duties required to ensure mission accomplishment (e.g., ASW tactical coordinator, navigator, radar intercept officer, electronic warfare evaluator, electronics countermeasures officer, airborne communicator, etc.)

Q — COMMUNICATION — Performs in-flight duties as a flight communication operator. Is knowledgeable of aircraft avionic systems, emergency procedures, and flight equipment.

R — RADAR — Performs in-flight duties as a radar operator. Is knowledgeable of aircraft avionic systems, emergency procedures, and flight equipment.

S — UNUSED.

T — CREW UT — An air crewman assigned to crewmember flight status who has not achieved full designation in the syllabus to which assigned.

U — NONCREW UT — An enlisted aircrew candidate assigned to noncrewmember flight status for training.

V — LOCAL USE/OTHER — As the local activity desires for functions that do not fall into any identified special qualifications.

W — GUNNER — Performs in-flight functions as a gunner.

X — 2ND MECHANIC/ASSIST FLT ENGINEER —Performs in-flight functions assisting the crewchief flight engineer in the performance of his/her duties. He/she may perform takeoffs and landings (no induced malfunctions) with an instructor pilot and instructor flight engineer onboard during minimum crew training flights.

Y — HELO UTILITY/AMCM — Performs in-flight operation of vertical replenishment or mine countermeasures equipment.

Z — MSN CMDR — A qualified naval aviator or naval flight officer designated by appropriate authority to exercise command over single aircraft or formation and responsible for all phases of the assigned mission except those aspects in safety of flight that relate to the physical control of the aircraft during flight.

F.3 SERVICE CODES

a. Pilot/Student/Pilot

USN/R Active Duty	1
USNR Reserve Training	2
USMC/R Active Duty	3
USMCR Reserve Training	4

b. Naval Flight Officer/Flight Surgeon

USN/R Active Duty	6
USNR Reserve Training	7
USMC/R Active Duty	8
USMCR Reserve Training	9

c. Other

USMC AO/Navigator	0
Other Services	5
Enlisted Marine	M
Enlisted Navy	N

F.4 LANDING CODE

TYPE	DAY	NIGHT
Ship Arrest/RAST	1	A
Ship Touch and Go	2	B
Ship Bolter/RAST Free Deck	3	C
Ship Helicopter/Clear Deck	4	D
NFO	Y	Z
FCLP	5	E
Field/Field Touch and Go	6	F
Field Arrest	7	G
VSTOL Slow	8	H
VSTOL Vertical	9	J
VSTOL Vertical Roll	0	K
NVD Ship	_	N
NVD Field/Field Touch and Go	_	P
NVD FDLP	_	Q

F.5 APPROACH CODE

Note

The approach is actual if actual instrument conditions (as defined in paragraph 1.3) are encountered below 1,000 feet above airport/flight deck elevation during the approach. The approach is simulated if flown in accordance with the criteria set forth in paragraph 1.3 under simulated instrument conditions.

CATEGORY	ACTUAL INSTRUMENT (ACT)	SIMULATED INSTRUMENT (SIM)
Precision	1	A
Nonprecision	2	B
Auto	3	C
Auto (NVD)	4	_

a. Precision

(1) ALS — Automatic Landing System (includes SPN-42/SPN-46 Mode I or IA).

(2) ILS — Instrument Landing System (includes SPN-42/SPN-46 Mode II).

(3) PAR — Precision Approach Radar (includes SPN-42/SPN-46 Mode III).

b. Nonprecision

(1) VOR — VHF omni range.

(2) VOR/DME — VOR/distance measuring equipment.

(3) Tacan — UHF tactical air navigation aid.

(4) NDB (ADF) — Nondirectional beacon (automatic direction finder).

(5) L/MF range.

(6) Localizer.

(7) ASR — Airport surveillance radar (includes CCA when no glidepath information is provided).

(8) ELVA (helicopter only) — Emergency low visibility approach. Controlled by ASAC utilizing ship controlled radar.

(9) SCA — Self-contained approach controlled by operator using on-board radar.

c. Auto

(1) Coupled/automatic hover system approaches after official sunset or during actual instrument conditions in automatic or alternate modes will utilize 3. Simulated instrument conditions in automatic or alternate modes will utilize C.

APPENDIX G

Time Zone, System Status, Passenger Priority, and Opportune Cargo Codes

G.1 TIME ZONE CODES

a. Time zone codes are referenced to Greenwich Mean Time (GMT): solar time of the meridian at Greenwich, England, used as the basis for standard time throughout the world.

b. COMPUTE TIME in the Western hemisphere from local zones to GMT as follows:

ZONE	ADD	HOUR(S)
N	+	1
O	+	2
P	+	3
Q	+	4
R	+	5
S	+	6
T	+	7
U	+	8
V	+	9
W	+	10
X	+	11
Y	+	12

c. Compute time in the Eastern hemisphere from local zones to GMT as follows:

ZONE	MINUS	HOUR(S)
A	-	1
B	-	2
C	-	3
D	-	4
E	-	5
F	-	6
G	-	7
H	-	8
I	-	9
K	-	10
L	-	11
M	-	12

Note

The time zone for either the Eastern or Western hemisphere remains unchanged, even during daylight savings time.

G.2 SYSTEM STATUS CODES

a. F — Full systems from takeoff to landing.

b. P — Full systems at takeoff; not full systems at landing.

c. N — None/partial systems from takeoff to landing.

G.3 PASSENGER PRIORITY CODES

a. Priority 1 (PRI1) — Emergency airlift in direct support of operational forces or for lifesaving purposes.

b. Priority 2 (PRI2) — Official business airlift of personnel with scheduling constraints that cannot be satisfied by any other mode of travel.

c. Priority 3 (PRI3) — Other official business airlift of passengers that requires the carrying of classified material for mission accomplishment that cannot be accommodated by mail or the Armed Forces Courier Services.

d. Priority 4 (PRI4) — Official business airlift involving group or team travel that requires the conduct of official business while en route that maintains the integrity of cohesiveness of the group and that cannot be reasonably satisfied by other modes of travel.

e. Priority 5 (PRI5) — Any other official business airlift that can be shown to be less expensive than any other mode of travel to satisfy scheduling constraints. Requests carrying this priority shall be supported only when cost effective.

G.4 OPPORTUNE CARGO CODES

CODE	CARGO
*1	NMCS items
*2	CASREP items
*3	NMCM items
A	Mail
B	Aircraft spares, parts
C	Avionic spares, parts
D	Aircraft engines
E	Ship parts
F	Electronic spares, parts
G	Electronic test equipment
H	Ground support equipment
I	Boats
J	Medical equipment, supplies
*K	Organizational equipment
L	Maintenance tools, equipment
M	Petroleum products or tanker fuel
N	Explosives, flares, ammunition
O	Aircraft
P	Weapons, weapon parts
Q	Missiles, torpedoes
R	Drones, air targets
S	Chemicals
T	Vehicles, vans, trailers
U	Food, commissary supplies
V	Musical instruments
W	Human remains
*X	Other aviation cargo
*Y	Other general cargo
*Z	Other (i.e., hazardous cargo)

*Briefly described in remarks section of the naval aircraft flight record.

Note

If codes 1, 2, or 3 are utilized, indicate alphabetical code first (primary), and code 1, 2, or 3 second (E2 means ship parts that are CASREP items). If codes 1, 2, or 3 are not used, indicate the categories relative to predominance/bulk of cargo.

APPENDIX H

Weapons Proficiency Codes

H.1 ORDNANCE CODES

Below are the ordnance types and codes required for the weapons proficiency subsystem:

ORDNANCE	ORDNANCE CODE
B43	B43
B43 Retarded	B43A
B57	B57
B57 Retarded	B57A
B61	B61
B61 Retarded	B61A
Mk-81 FF	B81
Mk-81 SE	B81A
Mk-82 FF	B82
Mk-82 SE	B82A
Mk-83 FF	B83
Mk-84 FF	B84
BDU-8	BD1
BDU-8 Retarded	BD1A
BDU-12	BD2
BDU-12 Retarded	BD2A
BDU-20	BD3
BDU-20 Retarded	BD3A
BDU-24	BD4
BDU-24 Retarded	BD4A
BDU-33	BD5
BDU-33 Retarded	BD5A
BDU-36	BD6
BDU-36 Retarded	BD6A
BDU-45	BD7
BDU-45 Retarded	BD7A
BDU-48	BD8
BDU-48 Retarded	BD8A
Mk-20 Rockeye	C20
CBU-55 FAE	C55
CBU-59 APAM	C59
CBU-72 Napalm	C72
Mk-82 Gator	C78
CBU-88 Smokeye	C88
RR-129 Chaff	CH1
Speedbrake Chaff	CH2
Pod Chaff	CH3
Chaffeye	CH4
RR-144	CH5
AIRBOC	CH6
Mk-36 Destructor	D36
Mk-40 Destructor	D40
Mk-41 Destructor	D41
Mk-45 Flare (SUU-44 Dispenser)	F1
Mk-46 Decoy Flare	F2
Aviation Parachute Flare	F3
Mk-25 Marine Smoke Marker	F10
Mk-12 Smoke Tank	F11
Mk-58 Marine Smoke Markers	F12
G-900 Series Smoke Grenades	F13
LB-31 Camera Pod	F21
M-112/123 Photo Flash Cartridges	F22
LAU-10 Leaflet Dispenser	F31
GAU-2 Gun	G2
20 MM Gun	G20
25 MM Gun	G25
30 MM Gun	G30
.50 Caliber Gun	G50C
7.62 MM Gun	G762
M60 Machinegun	GM60
Mk-81 FF Inert	I81
Mk-81 SE Inert	I81A
Mk-82 FF Inert	I82

ORDNANCE	ORDNANCE CODE
Mk-82 SE Inert	I82A
Mk-83 FF Inert	I83
Mk-84 FF Inert	I84
Mk-7 JATO	J1
LGB Mk-82	L82
LGB Mk-82 With Extended Fin (PEP KIT)	L82P
LGB Mk-83	L83
LGB Mk-84	L84
Mk-25 Mine	M1
Mk-36 Mine	M2
Mk-52 Mine	M3
Mk-55 Mine	M4
Mk-56 Mine	M5
AIM-7 Sparrow	M7
AIM-7 Sparrow (Captive)	M7C
AIM-9 Sidewinder	M9
AIM-9 Sidewinder (Captive)	M9C
AGM-119B Penguin	M119
AIM-120 AMRAAM	M10
AIM-120 AMRAAM (Captive)	M10C
AGM-45 Shrike	M45
AGM-45 Shrike(Captive)	M45C
AIM-54 Phoenix	M54
AIM-54 Phoenix (Captive)	M54C
AGM-62 Walleye	M62
AGM-62 Walleye (Captive)	M62C
AGM-65 IR Maverick	M65I
AGM-65 Laser Maverick	M65L
AGM-71 Tow	M71
AGM-78 Standard Arm	M78
AGM-84 Harpoon	M84
AGM-88 Harm	M88
AGM-114 Hellfire	M114
AGM-122 Sidearm	M122
AGM-123 Skipper	M123
Mk-76	P76
Mk-106	P106
ACMR/TACTS Pod	POD1
LAU-68 (7 2.75 Rockets)	R275
LAU-61(19 2.75 Rockets)	R275
LAU-10 (5" Zuni)	R5

ORDNANCE	ORDNANCE CODE
Mk-94 Chemical Bomb	S1
AERO-14 Spray Tank	S2
Bigeye	S3
Weteye	S4
AN/SSQ-36 Sonobuoy	SB1
AN/SSQ-41 Sonobuoy	SB2
AN/SSQ-47 Sonobuoy	SB3
AN/SSQ-50 Sonobuoy	SB4
AN/SSQ-53 Sonobuoy	SB5
AN/SSQ-62 Sonobuoy	SB6
AN/SSQ-77 Sonobuoy	SB7
ADSID III-N Seismic Detector	SD1
Mk-64 SUS	SU1
Mk-84 SUS	SU2
Mk-46 Torpedo	T594
Mk-46 Torpedo (Extorp)	T595
Mk-46 Torpedo (Rextorp)	T596
Mk-50 Torpedo	T597
Mk-50 Torpedo (Extorp)	T598
Mk-50 (Rextorp)	T599

H.2 DELIVERY DATA CODES

Below are the delivery types and delivery codes for the weapons proficiency subsystem:

a. System/Automatic Deliveries

TYPE DELIVERY	DELIVERY CODE
Straight Path (1g)	A1
General/Dive Toss (Any g)	A2
Auto TV (Any g)	A3
Auto Hud (Any g)	A4
Auto Slew	A5
Air-to-Air Radar	F1
Air-to-Air Infrared	F2
High Loft	S1
LST/LDT-Bombs (Laser Designated)	S2
LST/LDT-Missiles (Laser Designated)	S3
System Mining	S4
CCIP	V1
Point Blank (Bore-sight/Pickle-Pull)	V2

b. Manual Deliveries

TYPE DELIVERY	DELIVERY CODE
0° Bombs (Manual)	B0
5° Bombs (Manual)	B5
10° Bombs (Manual)	B1
20° Bombs (Manual)	B2
30° Bombs (Manual)	B3
45° Bombs (Manual)	B4
60° Bombs (Manual)	B6
5° Popup Bombs (Manual)	BA
10° Popup Bombs (Manual)	BB
20° Popup Bombs (Manual)	BC
30° Popup Bombs (Manual)	BC/D
Radar Manual Range Line	LØ
Labs IP	L1
Labs Target	L2
Conlabs	L3
Special Weapons Laydown	L4
Mining (Manual)	L5
5° Rockets (Manual)	R5
10° Rockets (Manual)	R1
20° Rockets (Manual	R2
30° Rockets(Manual)	R3
45° Rockets (Manual)	R4
60° Rockets (Manual)	R6
5° Popup Rockets (Manual)	RA
10° Popup Rockets (Manual)	RB
20° Popup Rockets (Manual)	RC
30° Popup Rockets (Manual)	RD

H.3 MISCELLANEOUS DATA RECORD CODES

The miscellaneous data subsystem of NAVFLIRS is utilized to capture and document miscellaneous training and utilization that is of importance to the individual aviator or his command, but is not documented elsewhere.

a. The miscellaneous code contains two characters. If the first character of the miscellaneous code is "N," "R," or "1," the data field will be numbers and tenths of numbers with an implied decimal between the second and third characters.

b. Below are the listed miscellaneous data codes:

DATA	CODE
Number of Autorotations	A1
Number of Rounds Fired	F1
Logistical Movement W-79 8" Arty Rounds	L1
Logistical Movement B-33 8" Arty Rounds	L2
Logistical Movement B-48 155 MM Arty Rounds	L3
Logistical Movement B-54 SADM	L4
Logistical Movement B-43	L5
Logistical Movement B-57	L6
Logistical Movement B-61	L7
Night Vision Device Usage (other than low light)	N1
Night Vision Device Usage (low light)	11
SUA not utilized because of cancellation of flight operations	N2
SUA canceled because of weather	N3
SUA canceled because of maintenance action	R1
SUA canceled by air traffic control	R2
Future Use	12
Future Use	13
Covered Radio-Successful Check In	21
Covered Radio-Unsuccessful Check In	22
Future Use	31
Future Use	32
Future Use	33

APPENDIX I

Support Codes

I.1 SUPPORT CODES

SUPPORT CODE	ACTIVITY NAME	SUPPORT CODE	ACTIVITY NAME
AL	COMNAVAIRLANT	MR	MARINE RESERVE (CG FOURTH MAW)
AP	COMNAVAIRPAC	MW	COMCABWEST
CN	CNATRA	MX	HMX-1
FL	COMMARFORFLANT	NA	COMNAVAIRSYSCOM
FP	COMMARFORPAC	NS	COMNAVSAFECEN (PEP)
ME	COMCABEAST	RE	COMNAVRESFOR

APPENDIX J

Marine Codes

J.1 ASSIGNED SYLLABUS CODES

SYLLABUS	SYLLABUS CODES
A-4 Pilot	7501
RF-4 Pilot	7545
A-6 Pilot	7511
A-6 B/N	7583
EA-6 Pilot	7542/7543
EA-6 EWO	7584/7588
AV-8 Pilot	7508/7509
F-4 Pilot	7522
F-4 RIO	7587
F/A-18 Pilot	7521/7523/7527
F/A-18 WSO	7524/7525
C-9 Pilot	7551
CT-39 Pilot	7559
UC-12 Pilot	7555
KC-130 Pilot	7557
OV-10 Pilot	7576
OV-10 Aerial Observer	9960
Qualified Observer/ Gunner	9916
AH-1 Pilot	7565
UH-1 Pilot	7563
CH-46 Pilot	7562
CH-53 Pilot	7564/7566
KC-130 Navigator	7372/7380
KC-130 Radio Operator/ Loadmaster	7381/7382
KC-130 Flight Engineer	6031/6032
KC-130 First Mechanic	6016
UH-1N Crewchief	6174
CH-46 Crewchief	6172
HH-46 Crewchief	6167
CH-53 Crewchief	6173
MV-22 Crewchief	6175
MV-22 Pilot	7531/7532

J.2 MARINE SYLLABUS STATUS CODES

a. C — Conversion Syllabus — The syllabus provided for aircrewmen converting from one model aircraft to another within the specific aircraft type (i.e., CH-46 to CH-53 or F-4 to F/A-18).

b. F — Full Syllabus — The standard instruction prescribed for newly designated aircrewmen to become full-combat qualified (sometimes referred to as the first tour or replacement aircrew (RAC) syllabus).

c. R — Refresher Training — The syllabus to be flown by aircrewmen who have not flown the model aircraft in which refresher training is to be conducted within the previous 12 months. Refresher programs to be flown by aircrewmen with differing backgrounds and assignments are outlined within MCO P3500.14 (Training and Readiness Manual, Vol. 1, Admin.).

d. T — Transition Syllabus — Syllabus instruction designed for aircrewmen changing aircraft types. Tactical jet, helicopter, fixed-wing transport, fixed-wing observation, and VSTOL attack are the Marine Corps aircraft types.

J.3 MARINE AIRCREW STATUS CODES

a. 0 — Personnel authorized more than two syllabuses.

b. 1 — Tactical Crewmen — Aircrewmen permanently assigned to a tactical aircraft unit and whose cumulative combat readiness contributes directly toward the combat readiness of the unit as reported through UNITREP.

c. 2 — Augmentation Crewmen — Those crewmen assigned to fly with tactical squadrons to augment the unit for combat readiness purposes. No more augmentation personnel will be assigned to a unit than is required to bring that unit to 100-percent T/O.

d. 3 — Tactical Support Crewmen — Crewmen similarly assigned as augmentation crewmen, but only maintained at a level of combat readiness that shall not inordinately degrade the capacity of the reporting unit to maintain combat readiness of tactical and augmentation crewmen.

e. 4 — Replacement Aircrewmen — Newly designated aircrewmen undergoing training as outlined in the Training and Readiness Manual within a tactical or training squadron.

f. 5 — All enlisted aircrewmen (flight engineers, radio operators, crewchiefs, gunners, test, trainees, etc.) and aerial observers and non-USN/USMC NA/NFOs.

g. 6 — Nonsyllabus pilot.

h. 7 — Nonsyllabus NFO.

i. 8 — Other nonsyllabus crewmen.

j. 9 — Local use.

APPENDIX K

CNO- (N889) Approved IFAR Simulators

K.1 NAVY SIMULATORS (PILOT AND NFO SPECIAL CREW TIME)

SIMULATOR DESIGNATION	SIMULATOR TYPE	AC/TYPE	TYPE EQUIP CODE
2C63B	OFT	TA-3B	VABJ
2F90	OFT	TA-4J	VACM
2F108	OFT	A-4M	VACS
2F114	WST	A-6E	VAEG
2F122	NCLT	A-6E	VAEP
2F131A	OFT	A-6E	VAEQ
2F156A	WST	A-6E SWIP	VAEB
2F119A	WST	EA-6B	VAEH
2F143	OF/NT	EA-6B	VAEY
2F84B	WST	A-7E	VAFB
2F103	NCLT	A-7E	VAFJ
2F111	WST	A-7E	VAFK
2F107	OFT	KC-130R	VCMB
2F152	OFT	KC-130T	VCME
2F110	OFT	E-2C	VEBG
2F166	OFT	E-2C	VEBE
2F144	OFT	E-6A	VECA
2F55J	WST	F-4S	VFPP
2F88	WST	F-4S	VFPL
2E6	ACMS	F-14A	VFUJ
2F95	OFT	F-14A	VFUE
2F112	WST	F-14A	VFUF
2F153	MFT	F-14D	VFUA
2F154	WST	F-14D	VFUB
2E7	WTT	F/A-18	VFYA
2F132	OFT	F/A-18	VFYB
2F136	WST	AH-1T/W	VHTK
2F106	WST	SH-2F	VHBA
2F145	WST	SH-2F	VHBE
2F158	WST	SH-2G	VHBF
2F64C	WST	SH-3H	VHCL
2F64D	WST	SH-3H	VHCT
2F117B	OFT	CH-46D	VHRH
2F117	OFT	CH-46E	VHRC
2F117A	OFT	CH-46E	VHRF
2F172	APT	CH-46E	VHRM
2F121	OFT	CH-53D	VHUA
2F120	OFT	CH-53E	VHUD

SIMULATOR DESIGNATION	SIMULATOR TYPE	AC/TYPE	TYPE EQUIP CODE
2F141	OFT	MH-53E	VHUC
2B42	FIT	TH-57C	VHSH
2F135	OFT	SH-60B	VHZB
2F139	WST	SH-60B	VHZW
2F146	WST	SH-60F	VHZF
2F69D	WST	P-3A/B	VPBM
2F69E	WST	P-3B	VPBU
2F142	WST	P-3B	VPBC
2F87	WST	P-3C	VPBR
2F140	WST	P-3C	VPB6
2F92A	WST	S-3A	VSBD
2F92B	WST	S-3B	VSBJ
2F101	OFT	T-2C	VTBB
2B37	FIT	T-34C	VTEB
2F129	OFT	T-44A	VACV
2F137	IFT	T-45A	VTMA
2F138	OFT	T-45A	VTMB
2F99	OFT	AV-8A	VAGA
2F133	OFT	AV-8B	VAGC
2F134	WTT	AV-8B	VAGD
2F149	WST	AV-8B	VAGQ
2F150	WST	AV-8B	VAGR
2F151	OFT	MV-22A	VKAA
2F170	APT	AH-1W	VHTQ
2F171	APT	CH-53E	VHUM
2F172	APT	CH-46E	VHRM

AMCS — AIR COMBAT MANEUVERING SIMULATOR

APT — AIRCREW PROCEDURE TRAINER

FIT — FLIGHT INSTRUMENT TRAINER

IFT — INSTRUMENT FLIGHT TRAINER

NCLT — NIGHT CARRIER LANDING TRAINER

OFT — OPERATIONAL FLIGHT TRAINER

OF/NT — OPERATIONAL FLIGHT/NAVIGATION TRAINER

WST — WEAPON SYSTEM TRAINER

WTT — WEAPON TACTICS TRAINER

K.2 NAVY SIMULATORS (NFO SPECIAL CREW TIME ONLY)

The following simulators are suitable *only* for substitution of special crew time.

Note

Pilots must occupy a pilot station to log pilot time.

SIMULATOR DESIGNATION	SIMULATOR TYPE	A/C TYPE	TYPE EQUIP CODE
15F13	TT	A-6E	VAEC
15E22C,	TTT	EA-6B	VAER
15F8A	TT	E-2C	VEBJ
15F8B	TT	E-2C	VEBK
15C4E	PTT	F-4J/S	VFPK
15C9A	MCOT	F-14A	VFUC
2F64C(T)	TT	SH-3H	VHCL
14H8	TT	SH-3H	VHCS
14B51	WTT	SH-60B	VHZC
14H9	TTT	SH-60F	VHZV
2F66D	TT	P-3A	VSAL
2F69D(T)	TT	P-3A/B	VPBK
2F69E(T)	TT	P-3B	VPBV
2F87(T)	TTT	P-3C	VPBF
2F87A(T)	TTT	P-3C	VPBN
2F87B(T)	TTT	P-3C	VPBW
2F87C(T)	TTT	P-3C	VPBI
2F140(T)	TTT	P-3C	VPB6
14B49	TT	S-3A	VSBB
14B50	TT	S-3A	VSBF
14B49A	TT	S-3B	VSBK
1D23	TT	GENERIC	VNAC

MCOT — MISSILE CONTROL OFFICER TRAINER

PTT — PART-TASK TRAINER

TT — TACTICS TRAINER

TTT — TEAM TACTICS TRAINER

WTT — WEAPON TACTICS TRAINER

K.3 NONNAVY SIMULATORS (PILOT AND SPECIAL CREW TIME)

A/C TYPE	SIMULATOR TYPE	LOCATION	TYPE EQUIP CODE
TC-4C	OFT	FSI SAVANNAH	VZAG
C-9	OFT	FSI LONG BEACH	VZAC
UC-12B	OFT	FSI/SIMUFLITE	VZAP
C-130E	OFT	US AIR FORCE	VZAU
E-3	OFT/TTT	US/AIR	VZBE
F-4	OFT/WST	FORCE/NATO	VZAT
RF-4	OFT	US AIR FORCE	VZAK
F-15	OFT/WST	US AIR FORCE	VZBV
F-16	OFT/WST	US AIR FORCE	VCT7
F-111	OFT/WST	US AIR FORCE	VCT6
AH-1S	OFT	US AIR FORCE	VZA5
AH-1T	OFT	US ARMY	VZA1
UH-1	OFT	US ARMY	VZAM
HH-52	OFT	US ARMY	VZAJ
UH-60	OFT	US COAST GUARD	VZAQ
AH-64	OFT	US ARMY	VZBC
T-37	OFT	US ARMY	VZBJ
T-38	OFT	US AIR FORCE	VZBK
CT-39	OFT	US AIR FORCE	VZAE
T-43	OFT/TT	FSI ST. LOUIS	VZAX
FALCON	OFT/WST	US AIR FORCE	VZBL
HARRIER	OFT/WST	NUMEROUS	VZBM
HORNET (F-18)	OFT/WST	FOREIGN	VZA8
JAGUAR	OFT/WST	NUMEROUS	VZA7
LYNX	OFT/WST	FOREIGN	VZBN
MIRAGE	OFT/WST	NUMEROUS	VZBP
ORION (P-3)	OFT/TTT/WST	FOREIGN	VZBQ
SEA KING	OFT/WST	NUMEROUS	VZBR
(H-3)	OFT/WST	FOREIGN	VZA6
TORNADO	OFT/TTT/WST	NUMEROUS	VZBA
AURORA	OFT/WST	FOREIGN	VZBS
CRUSADER	OFT/WST	NUMEROUS	VDT1
(F-8)	WST	FOREIGN	VZBU
ETENDARD	WST	NUMEROUS	VZBV
F-14	WST	FOREIGN	VZAW
F-15		NUMEROUS	
F/A-18		FOREIGN	
		NUMEROUS	
		FOREIGN	
		CANADA	
		FRANCE	
		FRANCE	
		GRUMMAN	
		MCAIR ST. LOUIS	
		MCAIR ST. LOUIS	

A/C TYPE	SIMULATOR TYPE	LOCATION	TYPE EQUIP CODE
GENERIC:	FIXED WING	US AIR FORCE	V1AF
	HELO	US AIR FORCE	V2AF
	FIXED WING	US ARMY	V1AR
	HELO	US ARMY	V2AR
	FIXED WING	US COAST GUARD	V1CG
	HELO	US COAST GUARD	V2CC
	FIXED WING	FOREIGN	V1FM
	HELO	FOREIGN	V2FM
	FIXED WING	NASA	VZBW
	V/STOL	NASA	VZAV
MFS	FIXED WING	PATUXENT RIVER	VZBX
MFS	V/STOL	PATUXENT RIVER	VZBY

Change recommendations to approved simulators may be made by letter to CNO (N889F2A), Washington, DC, 20350-2000.

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